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THE HORSE.

French Horse Methods.

Under the wise direction of government officials, and aided by enormous grants of money, the French breeders have reared on a thoroughbred foundation a trotting superstructure that compares favorably with our own. These government grants being available year after year and unaffected by the general financial conditions, the type of the French carriage horse has been continually improved; and the passage of wise laws has precluded the possibility of retrogression. The race course has been used, not as a mere means of sport or speculation, but to separate the good from the bad, to secure the survival of the fittest, to mark those animals which should be chosen to perpetuate the breed. Unsexed animals are not eligible to compete in races endowed by the French government, and horses or mares standing under fifteen and one-quarter hands high are arbitrarily debarred from winning government money as being undersized and unworthy, no matter how great their speed.

Again, take, for instance, the conditions of the great Futurity trotting race of France, the Prix des Conseils-Généraux. These conditions provide that any horse entered in this race must be sold to the government at the close of his three-year-old career at a stated liberal price—\$4,000. Those animals that prove themselves worthy of places in the government studs are then bought and retired in the full possession of all their constitutional vigor and before excessive campaigning on the race course has sapped their vitality. Such of these as are not bought by the government are so heavily handicapped in their older form as to render them unsatisfactory as racing tools. This sifting process makes way perpetually for younger generations and marks the utilization of the track as a means to the improvement of the breed alone.

This has been going on for years and years. What are the results? A breed of magnificent horses of great size, beauty of conformation, endurance, high action and phenomenal speed, considering the nature of the tracks on which they are raced. They must trot on the turf or on loose sandy soil—the billiard table track, as we see it in America, being unknown in France. This going has given these horses the high, folding action so much admired in the carriage horse, and the selection of only the best individuals, as breeders, has evolved and devolved, and is still improving, the beautiful type which we seek so much and see so seldom; the type which has, in this country, been produced not by design, but by accident; the type which, when obtained, fills with money the pocket of the breeder the world over.—Exchange.

Care of Unshod Feet.

While a great deal is written from time to time regarding the overtrimming of the horse's feet by the shoeing smith, and while there is much truth in the varied complaints set forth by these writers, they seem to forget that judicious trimming is absolutely necessary when fitting a shoe and as necessary in caring for a growing unshod foot, says A. S. Alexander, V.S., in the Breeder's Gazette. The impractical amateur reiterates the time-worn saying that "The shoe should be fitted to the foot, not the foot to the shoe," whereas the truth is that each should be carefully fitted to the other; hence a proper amount of trimming is necessary and beneficial. We desire, however, to draw attention in this article more especially to the intelligent trimming of unshod feet, for daily we see in young horses the bad results of leaving the hoof entirely to Nature. On stony, hard or gravelly ground the tendency is for the hoof to wear down somewhat in proportion to the growing process going on continuously. In such districts a tough, fair-shaped foot is developed naturally and all the attention necessary is to rasp away any cracked portions of wall that may be noticed from time to time.

But upon our fertile corn and grass lands where growth is very rapid, excessive secretion of horn may lead to disproportion in the form of the foot, to be followed inevitably by corresponding injurious effects upon the limb. The toe tends to grow too long under the conditions mentioned, and unless it be trimmed occasionally the weight is thrown upon the heels and an undue strain is put upon the tendons. Such overgrown feet are also too high at the heels, and we cannot get this condition without finding also that the frog is drawn up out of ground contact; hence contraction of the heels follows. Overgrowth of hoof may also result in one wall being higher than the other, resulting in a canting of the foot which cannot but act injuriously upon the limb, and all such overgrowth, whether at toe or quarter, may lead to serious cracks that prove difficult to cure afterward but which may be easily prevented by timely trimming.

Such interference of hoof-growth consists merely in reducing the length of the toe and rasping the rough edges of the walls, so that the foot shall come squarely in contact with the ground. The frog should be let alone, nor does the sole require any paring. Keep the frog in contact with the ground and the foot will develop a sound normal shape, but leave the walls and the toe alone and the frog will be likely to shrivel up, recede into the sole as it were, and so lose its most important office.

This trimming of feet does not apply to growing colts only, but also to the feet of unshod horses confined in stables or small paddocks where wear is limited by lack of action. Where horses are turned out for the winter the feet should be examined at least once a month and all surplus growth of toe and wall removed by the rasp. Where this is done many an incipient case of thrush will also be detected and stopped before the frog has been destroyed and the horses will be ready for spring work with sound feet instead of contracted

heels and a corresponding tendency to lameness.

Many a good representative stallion of the imported draft breeds has brought his breed into disrepute in western districts because of his unsound feet, but the fault lay usually in the owner's lack of proper attention to the feet rather than in the feet themselves or the particular breed of the horse. When a stallion is purchased the foot should be examined at time of purchase, and if it is sound then it can be kept sound by proper care, trimming and shoeing; but no foot accustomed to such care can remain sound when left unshod, untrimmed and allowed to stand upon a manure poultice for weeks at a time to contract thrush or other evils the badly-treated foot is heir to. "No foot, no horse" is a truism if a horse 'chestnut,' but in nine cases out of ten the foot is all right at first, as is the breed, but bad management ruins Nature's work and man's achievements in breeding and the blame falls always in the wrong place. Intelligent efforts toward breeding profitable grade horses may then prove abortive through lack of attention to the growing unshod foot, for such inattention is a prolific cause of bent knees, straight and "cocked" ankles, corns, quarter-cracks, thrush and many other troubles which depreciate the value of the horse.

Nor should the growing steer or sheep receive less attention, for we have seen a beast fit to win a fat-stock show championship thrown out on account of deformed lame feet, and thousands of cattle and sheep suffer annually from foul in the foot or foot-rot, which might be easily prevented by judicious use of the knife and rasp and the provision of sanitary environment.

Feeding Unthrashed Oats.

On account of the dry weather in the spring, many of the oat fields are still green. In some places large quantities of green oats are being cut for hay. Properly cut and cured, green oats will make a good substitute for hay. If cut a few days before they are ripe, oats make a most desirable feed for both horses and cattle. They can either be stacked outside or put in the barn if there is room. In feeding them it is best to run them through a cutting box, saving the butt ends for bedding. Any tendency on the part of horses to bolt their grain will be overcome by feeding oat sheaves.

What should be noted at the present time is that newly-threshed oats are a very dangerous feed for working horses.

N. P. Clarke, St. Cloud, Minn., who has bred two of the best young Clydesdales in Manitoba, has purchased eight young Clydesdale stallions in Scotland recently.

At the Royal Agricultural Show recently held at Birmingham, Eng., "in the class for 3-year-old stallions, exceeding 15 hands, Sir Walter Gilbey's Gay Danegelt, by the renowned Danegelt, dam Genista, won the first prize, being a horse of splendid action and beautiful model. This horse also won the championship." It is pleasing to know that that we have in Manitoba a half-brother of this distinguished prize-winner, Prince Danegelt, owned by J. A. S. Macmillan, of Brandon.

Pulling Horses.

A contributor of The American Cultivator tells how he cured a horse of a confirmed habit of pulling by giving him a slack rein and letting him cover as many miles as he wanted to, pulling him down whenever he started to run. He adds that he always thought when he saw a pulling horse that there was a fool horse at one end of the reins and fool driver at the other.

The habit of pulling is a most uncomfortable one for both horse and driver, and it is one that no colt should ever be encouraged in. Once a horse becomes a puller he gets so accustomed to feeling a tight bit in his mouth that as soon as the strain is slackened he becomes excited and pushes ahead until he finally breaks into a run.

Nine times out of ten the habit is formed by vicious methods while training the colt. The trainer holds hard on the reins and touches the colt up with the whip in order to make him get his head up and make a lively appearance. If the colt is cold-blooded and not at all excitable this may not produce much effect one way or another, but if he is of a nervous disposition he will pull away at the bit and before long becomes convinced that that is what is expected of him and the result is a most uncomfortable driver for himself and for the man who drives.

No driving horse has completed his education until he will go at a merry gait with a slack rein. Then he can be driven with some comfort and satisfaction and is of greatest value. He should be taught to start and stop at the word and to neither stop nor start until the word is given. A puller does not stop until pulled down by main force and is always starting just before he is wanted to. Such a horse is much more than half spoiled, and usually bad training is at fault.

Educate Your Colts.

Breeding and raising a good horse is one thing, but fitting him for the market and getting his value is quite another, says the "Western Horseman." A rose under any other name is just as fragrant, but a well bred, good individual horse, uncultured and vulgar in behavior is quite different, as a money-bringing product from one of similar breeding and individuality that has been clearly educated, groomed and made ready for that position in horse life for which he is intended, or at least adapted. In selling a harness horse for other than track use much depends on his individuality, but a great deal more depends on his cleverness of manners and action—on his education. Everyone knows what avidity buyers "go after" a nicely behaved and good acting gelding, 15.3 to 16 hands, yet breeders, as a rule, pay less attention to the schooling of their horses than they do to feeding their ducks and geese. They will take up a well-grown and likely four or five-year-old gelding, hitch him to a farm wagon a couple of times, lead him "to town," sell him to the local horse buyer for whatever they can get, and go home grumbling that "good horses, even, are worth nothing." Well, even good horses are not really worth much unless they can do something or know something. Too many breeders and farmers have it in their heads that "track work" is the only kind of schooling that horses need, or that will pay, but this is an egregious mistake. A well educated, good acting and well behaved horse will always bring more money than a track worked horse that has only moderate speed, and that has not learned enough

to turn around in the road without upsetting a buggy. It costs but a trifle for a farmer or small breeder to educate his horses for road or street use. This can be done in his regular business and pleasure driving. The trouble is that the average breeder and farmer will use a jaded farm horse or team for his road driving in preference to going to the pasture and getting up and driving a youngster that is really spoiling for a little work and education. We have in mind a pointed instance of this kind. A farmer and horse breeder, who always has on hand a lot of likely young horses and does an unusual amount of driving around on the roads, last year had in his pasture, a pair of large handsome geldings, full brothers, three and four years old. For his road driving he used his jaded farm horses allowing the fine, big geldings to ruminate in idleness. Towards fall he concluded to sell the geldings, and after hitching them to the farm wagon a few times, he led them :: to town" and sold them to the local buyer for \$200. The purchaser put a good set of harness on them, hitched them to his road wagon a few times, took them in hand and taught them a "thing or two," and in about ten days sold them for \$400 or \$500. A wealthy city gentleman was the purchaser, and, with their education still further advanced, these geldings are now the handsomest and highest class team in the Central States, and would doubtless sell for \$2,000. Such instances are plentiful, and if breeders and farmers would pay more attention to educating their young horses for the road and street and spend less time and money in trying to develop speed, they would make a great deal more money, and derive a great deal more satisfaction from the operation. In this day and age an uneducated horse is just as objectionable as an uneducated person.

Dr. McFadden, of Emerson, has sold, for a good figure, the handsome team of black roadsters that took first at the Winnipeg Industrial exhibition. Chas. Whitehead, the well-known drainage contractor, is the purchaser.

J. A. Mitchell, of Winnipeg, has bought from Dr. Rutherford the beautiful little mare, Gleam, one of the prize winners at the recent exhibition. Gleam is by Fly, and one of the sweetest drivers in appearance and manners that we know.

Chehalis, the full brother of W. Armstrong's Touchet, is one of the most noted horses of the year. Beginning the campaign by winning the free-for-all race in Denver, he added to his laurels in Detroit and Cleveland, and has recently reached the climax by trotting the fastest heat of the season in a race at Columbus, Ohio, and gained a record of 2:04. With such a brother, great things may be expected of Touchet.

Balky horses are a nuisance. Nobody doubts it. Sometimes they are so bad that it would almost take a dynamite explosion to move them. Other times all we have to do is to get them thinking about something else, tell them to go, and away they are. A farmer told the writer the other day of a prescription for the latter kind which he had seen tried with good success. It consisted of pulling out the horse's tongue and putting a handful of road dust or other harmless matter in his mouth. This so thoroughly distracted his attention from his job of balking that he entirely forgot his resolutions and went right along when told. No whip need be used to apply this treatment, though, or it will likely fail. Simple, isn't it?

BREEDERS' DIRECTORY.

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J. VAN VEEN, breeder of Galloway and Hereford Cattle and Shropshire Sheep, Lake View Ranch, File Hills, Fort Qu'Appelle, Assa. (1588P)

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Pure Bred Ayrshire Cattle.

Imported and bred for the dairy, with grand constitution. Leading Gold Medal Milk, Butter and prize record Ayrshires, Scotland and America. Importer and breeder of choice Collie Dogs. Stock, all ages, for sale. Member of Dominion Cattle Breeders' Association, and purchasers dealing with me secure special low rates.

R. G. STEACY, Box 720, BROCKVILLE, ONT.

Ridgewood Stock Farm, Souris, Man.

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High Class Herefords

A few early Bull Calves for sale.

ASK YOUR DEALER FOR

Rice's Pure Salt

BEST FORTABLE DAIRY AND FARM.

Invaluable Horse Maxims.

That should be committed to memory by every user of horses, although a good many users of horses are incapable of committing anything to memory:—

1. It is everybody's business to interfere with cruelty.
2. It is better to direct your horse by a low voice than by a whip or rein.
3. The whip is but little used by our best horsemen, and never severely.
4. You can get no more power from a horse than you give him in his food.
5. Yelling and jerking the bit confuses a horse and advertises a blockhead.
6. The horse is a man's invaluable helper, and should be treated as a friend.
7. Any fool can ruin a team, but a wise driver maintains its value.
8. The best drivers talk much to their animals.
9. Your horse needs water oftener than you.
10. A sandy or muddy road doubles the work.
11. A rise of only one foot in ten doubles the draft.
12. Balking is caused by abuse, over-loading or tight harness.
13. No horse should wear a shoe more than four weeks without changing.
14. But few farm horses need shoes.
15. Check-reins are cruel and injurious, unless very slack.
16. Wide tires save much horse power.
17. Quiet and patient drivers are worth twice as much as any others.
18. Your horse intends to please you, but does not always know your wishes.
19. Patient and gentle grooms and drivers are worth more pay than others.
20. He who abuses his horse will abuse his wife or children. Cruelty qualifies for crime: they are close neighbors.
21. It is cruel and silly to whip a horse for fright; sooth him with kind words.

Prof. Curtiss, of the Iowa Experiment Station, is starting out on a new line of work. He intends securing a carload of range-bred colts at weaning time next November, to be shipped to the college farm and there wintered and grown until ready for market. Horse-breeding on the range was undertaken on a grand scale with the expectation that it could be made a grand success on account of the low cost of production. It has been a success so far as breeding is concerned, but a failure when it came to growing their colts. The young colts weaned in the fall are not able to "rustle" with the matured animals, and consequently become stunted. Then there is a decided objection to a brand on a horse. It is looked upon as a sure sign of a wild, untamable vicious horse. The solution of the problem was suggested by the success that has attended the shipment of range-bred calves and lambs to the great feeding states to be finished for market on liberal rations. Following this plan, Prof. Curtiss intends to get the colts before the branding iron has been used, ship them east and grow them under favorable conditions. The experiment will be followed with much interest on the part of horsemen.

The Live Stock Association of Ontario are preparing to ship another car of live stock to Manitoba and the N. W. T. the last week of September, if enough stock offers to fill a car. A competent man will be in charge, who will give the animals every possible care and attention. Shippers should correspond at once with E. W. Hodson, Parliament Buildings, Toronto, Ont., for full particulars.

CATTLE.**Fattening Steers in Winter.**

By Professor Thos. Shaw, of Minnesota Experimental Station.

This paper is a condensation of the facts in Bulletin No. 58, Section 1, recently issued by the Animal Industry Department of the Minnesota University State Farm. It relates to the fattening of steers reared upon the farm, and under circumstances most untoward so far as concerns the prices of meat, as steers were selling high at the commencement of the regular feeding season, but before it was over, prices were unprecedentedly low. That any profit was possible under such circumstances was surprising. It could not possibly have been secured had it not been that the prices of feed were away down also.

The feeding period commenced Jan. 6, 1896, and ended June 4, thus covering a period of 150 days. The delay in entering upon the work was caused by the difficulty experienced in getting steers. It was the aim to feed three lots consisting of Galloway, Shorthorn and Hereford grades. Though the first lot was secured as early as September 1st, the last lot was not secured till January 1st. The average of cost was \$3.70 per 100 lbs. live weight unshrunk, and the price for which they were sold when finished was \$4.10 per 100 lbs., shrunk weight. Those who understand about feeding cattle will know that under these conditions, with foods dear, there would have been much loss, but as it was, the experiment resulted in a small profit.

Those familiar with western feeding know very well that in the open feed lot in the west it is customary to feed not less than 25 lbs. or 30 lbs. of corn per day to one animal that is being fattened. But the animal is followed by a pig which would probably consume not less than 5 lbs. per day. The quantity utilized by the cattle beast, therefore, if it were all digested, would be not less than 20 lbs. to 25 lbs. This to the writer has always seemed most wasteful feeding, and the experiment was undertaken with the object of getting some information regarding the amount of meal a cattle beast can utilize per day, with suitable adjuncts. It was thought wise to use steers of different grades in the experiment, although breed capabilities were not considered an important factor of the same.

The steers were placed in stalls, those of each grade standing side by side. The animals which stood at the right in each instance are spoken of as lot 1; those standing in the centre are spoken of as lot 2, and those standing at the left hand are spoken of as lot 3. There was, therefore, one steer of each grade in each lot. The steers in lot 1 were fed what is termed a light meal portion, those in lot 2 an intermediate quantity, and those in lot 3 a heavier meal portion. When put under experiment the steers in lot 1 were fed 5 lbs. of meal per head per day, those in lot 2, 7 lbs., and those in lot 3, 9 lbs. This was to be increased 1 lb. per animal every four weeks, but for reasons not quite in consonance with the judgment of the writer, it was increased a little faster than that. On Feb. 10th a pound of oil cake was added per animal per day to the other meal, and on March 16 a second pound was added. On May 11 the maximum amounts of meal fed had been reached. These were 10, 12 and 14 pounds respectively per animal per day.

The average amounts of meal fed per day per animal throughout the experiment were, for the steers in lot 1, 8.58 lbs.; for those in lot 2, 10.48 lbs., and for those in lot 3, 11.94 lbs. But it must be borne in

mind that some corn was fed in the ensilage given as mentioned below, but probably not more than 2 lbs or 3 lbs. per day. The meal consisted of bran, oats, barley and corn, equal parts by weight until March 16. It was then changed to bran, barley and corn, in the proportions of 1, 1 and 2 parts respectively. The fodder consisted of corn ensilage of somewhat less than medium quality, and native hay of a very inferior quality.

The food was charged at average market values in the state, which were very low at the time. These were as follows: Bran, \$6.50 per ton; oil cake, \$14.00; native hay, \$3.00; corn ensilage, \$1.00; oats, 14c per bushel; barley, 16c, and corn, 18c. But the charges for grinding raised the oats to 16½c, the barley to 18½c., and the corn to 20½c. per bushel. These prices, low as they are, are more in some instances than was actually paid for the food. Bran, for example, was bought at the Minneapolis mills for \$4.50 per ton, and in some remote parts of the state it was being used at the same time for fuel. Market values on the food, therefore, must have been dangerously near the line of the cost of production.

The average weights of the steers in the different lots when put under experiment were 1,037, 1,055 and 1,047 pounds respectively. The average weights at the close of the feeding period were 1,284, 1,314 and 1,277 pounds respectively. The maximum of gain made by the steers in lot 1 was 741 lbs. by the steers in lot 2, 776 lbs., and by the steers in lot 3, 692 lbs. The average daily gain made by the steers in lot 1 was 1.65 lbs., by those in lot 2, 1.72 lbs., and by those in lot 3, 1.54 lbs. These were only moderate gains, but they are as much probably as may be looked for from feeding when the hay is inferior and for so long a period of feeding. In any event, the fact is significant first, that the steers in lot 1 made a net increase of 49 lbs. more than those of lot 3, although the latter were fed daily 3.36 lbs. more meal per animal.

The food fed to the steers in lot 1 cost \$2.49 less than that fed to those in lot 2, and \$3.66 less than that fed to the steers in lot 3. Had the prices of foods been normal, the contrast in the cost would have been much greater. The average daily cost of the food fed was 5.80c with the steers in lot 1, 6.40c. with those in lot 2, and 6.66c. with those in lot 3. These figures contrast strangely with the cost of feeding steers in Ontario and certain of the eastern states, as detailed in bulletins in years gone by, when in some instances the daily ration fed cost from 18c. to 21c. The average cost of making 1 lb. of increase was 3.55c. with the steers in lot 1, 37.2c. with the steers in lot 2, and 4.37c. with the steers in lot 3. As the selling price was 4.10 per pound, each pound of increase made by the steers in lots 1 and 2 was worth more than it cost to make it, notwithstanding the abnormally low price obtained for the meat.

The profit made on the steers of the respective lots, without shrinkage being deducted, was \$16.52, \$15.68 and \$10.97 respectively. Accounting for the shrink it was reduced to \$10.21, \$9.20 and \$4.70 respectively.

The net profit per animal was \$2.68. Such an outcome under the conditions of sale and purchase was almost surprising. One lot of the steers, namely, Herefords, cost more per 100 lbs. than they sold for. And the mean difference between the buying and the selling price was only 40c. per 100 lbs. And had the steers been valued when the experiment began on the basis of shrunk weights, it would have been considerably less.

The profit was indeed small, but it must be remembered that it was an off year in feeding. Many of those engaged in it lost money. It is what is made in the av-

erage of years that counts, and that forms the basis of the profitable character or otherwise of a business. We will reach averages in due time. In the meantime the great point in the experiment is not to be lost sight of, that is to say, the fact first, that the steers in lot 1 made a higher average gain per day than the steers in lot 3, although they were fed 3.36 lbs. less meal daily while making it; and second, that because of this they made the said gain at a less average cost of .82c. per pound.

In the breed contest the Galloways stand first. The average weights of the Galloway, Shorthorn and Hereford grades at the beginning of the experiment were 1,012, 1,114 and 987 pounds respectively. The average increase in weight per animal was 259, 240 and 238 pounds. The average cost of food was \$9.38, \$9.91 and \$9.06. The average cost of making 100 lbs. of increase was \$3.62, \$4.18 and \$3.84; and the average net profit was \$9.52, \$6.62 and \$7.91.

Feeding Calves.

In his article on the "Feeding and Management of Cattle," for the Bureau of Animal Industry, Prof. Henry gives some very practical suggestions for the feeding of calves. He advises taking the calf away from the mother not later than the third day, giving it, for two weeks thereafter, from ten to fifteen pounds of full milk, not less frequently than three times a day. At the end of two weeks some skim-milk may be substituted for a portion of the full milk, making the change gradually until in three or four weeks skim-milk only is fed. Full milk of the Jersey or Guernsey cow is often too rich for the calf, and part skimmed milk should be used from the very start. At the end of a month or six weeks the calf will do nicely on two feeds per day. Cow's milk has a ratio of 1 to 3.7. In skim-milk the ratio is 1 to 2.1. Skim-milk contains all the elements of full milk excepting the fat, and we can in a measure make up for this with cheaper substitutes. Probably the best simple substitute is flax seed, which should be boiled until reduced to a jelly, and a small quantity given at each feed stirred in the milk. Oil meal is cheaper than flax seed, more easily obtained and serves practically the same purpose.

Keep a calf tied by itself with a halter in comfortable quarters, with a rack in front for hay and a box for meal. For food use either whole or ground oats, bran, oil meal or a mixture of these. By the third week have a mixture containing the grain feed at hand, and as soon as the calf is through with the milk slip a little meal into its mouth. It soon learns the taste, and, following that instinct so strongly marked, takes kindly to the meal in the box, and in a few days eats with the regularity of an old animal. Have the meal boxes movable, and place the meal in them sparingly, emptying out all that remains before each feeding time. Change the kind or combination of grain if the calves seem to tire with what is given.

A prime requisite to success in calf-feeding is regularity; let the calves be fed at the same time and in the same order each day. Next to regularity, regard the amount of milk fed. While fifteen to eighteen pounds of full milk is a ration, with skim-milk from eighteen to twenty-four pounds, may be fed, depending on the ability of the calf to assimilate its food. More skim-milk calves are killed by over-feeding than underfeeding.

It is now over two years since range-men began to realize that there was a marked shortage in beef cattle and to make efforts to re-stock. Throughout 1896 and 1897 comparatively few calves were marketed. Pastures were generally

abundant, beef cattle sold well and there was every inducement for growers to increase the production of beef. All these influences have tended within the past two years to replenish the beef stock on the ranges, but of course it has been impossible in so short a time to overcome the losses caused by years of depression and drought. We may reasonably expect, however, that the West will have more cattle to market during the coming two years than during the past two. Calves are being bred and kept, and it takes only two years for a calf to become beef. The yearlings are coming along, and there are more of them now than for several years.—Denver Field and Farm.

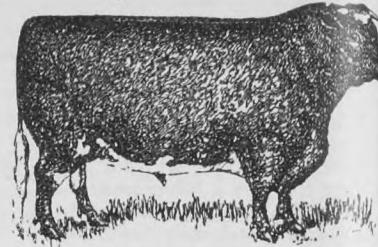
The Breeders' Gazette, of Chicago, throws this fact at the heads of those who declare that the beef and dairy qualities cannot be combined in one cow. The champion Shorthorn cow at the recent Royal show of beef cattle in Birmingham was the same animal which at the big dairy show last spring took first prize in the dairy class. Here is a cow which in one year ranked first as a dairy animal and in the next first in the beef class. This is surely pretty good evidence that a cow can be a first-class dairy animal without being entirely valueless for beef purposes.

Some Facts about Calf Feeding.

The following is quoted from the Indiana Experiment Station: "The first experiment was made with two calves, one of which was fed skim milk and the other one whole milk. They were fed sixty-two days. The one fed skim milk consumed nineteen and three-tenths pounds per day and gained seventy-eight pounds in sixty-two days, a daily gain of one and seventeen hundredths pounds. Estimating the skim milk at twenty-five cents per hundred, the seventy-eight pounds of growth on the calf cost \$3, the cost per pound being three and eighty-four hundredths cents. With the calf fed on whole milk, estimating it to be worth \$1 per hundred pounds, the seventy-three pounds of growth cost \$7.42 or over ten cents per pound. These calves were both pure bred Jerseys: there was but one day's difference in their ages. In the various experiments made at this station, it was found that the feeding value of skim milk was thirty-two cents per hundred." The person conducting this experiment believes that much better results might have been obtained had they fed some grain in connection with the milk. Pennsylvania Station work for 1891 gives the results of work done with whole milk and skim milk fed to calves. In the summary of results they say: "Counting whole milk at \$1 per hundred and skim milk at twelve cents per hundred, it costs nine and nine-tenths cents to make a pound of increase when whole milk was fed, and three and fourteen cents to make a pound of increase when skim milk was fed."

Dr. Duncan McEachran, Dominion veterinarian and inspector of stock, has returned from a trip to England and Scotland, and while there devoted some attention to the study of the conditions affecting our cattle trade. With the Hon. S. Fisher and Prof. Robertson, he visited the lairages in London and Manchester for receiving Canadian cattle. The accommodation at the latter place is the best in Britain. Cattle commission agents at Liverpool report business not very encouraging, although they look for better times. They impress the necessity for teaching breeders to improve their stock by using the best bulls, as it is only by having the cattle well bred that they can compete with American and Argentine dealers.

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Shorthorn and Hereford Cattle.
All animals registered.
Prices right. Come and see them or write
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50 LEICESTER RAM LAMBS 50

and 3 shearlings for sale. I will also sell on account of the light hay crop 50 high grade BREEDING EWES, age from shearlings to 4 shears. Prices moderate. Write or call early.

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I have a few choice pigs of March litters (either sex) for sale. If you want a young boar for service this fall write me at once; also a large number of August pigs, from prize-winning sires and dams. In order to run them off quickly, I offer them at the low price of Five dollars (\$5.00) each, unrelated pairs \$10.00. Fitz Lee heads the herd.

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PLAIN VIEW STOCK FARM PORTAGE LA PRAIRIE, MAN.

The home of Shorthorns, Cotswolds and Berkshires. Berkshire herd headed by the best pair of Boars in Canada. Tippecanoe and Western Boy, never beaten in a show ring. An easy winner over Perfection, a year older, for Diploma, which was an Ontario winner; and breeding sows, such as Lady Clifford, Cora Bell and two imported Highclere sows, all noted winners. A few sows and boars fit for breeding. Orders booked for August and September litters. When buying, do not lose sight of the herd that has won most diplomas and first prizes at the Industrial in 1896, '97 and '98. No inbreeding pairs and trios not akin.

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LARGE ENGLISH BERKSHIRES FOR SALE.

Young boars and sows ready for breeding purposes. Orders taken for young sows to be safe in pig this fall or winter. For prizes won by us, see Winnipeg and Brandon Fairs, 1898, an account of which is given in the August issue of The Nor'-West Farmer. Write for prices, come and see us.

Mention The Nor'-West Farmer when writing.

Fattening Range Steers.

The Minnesota Experiment Station recently tried the experiment of fattening range steers on the farm. The object was to demonstrate to farmers that they could fatten range steers just as well as the Twin City stock yards. Prof. Thomas Shaw, under whose direction the experiment was conducted, thinks the conditions are very favorable to farmers undertaking this kind of work. The experiment began Dec. 7, 1896, and lasted 131 days. The animals were wild, but were tied in stalls. It would be much better to feed range steers loose in a yard, allowing them access to a warm shed.

The steers were divided into three lots. The object was to ascertain the influence, in beef production, of a light, intermediate and heavy meal ration. The grain fed consisted of bran, barley, corn and oil cake, given in proportions of 3, 3, 3 and 1 parts of each by weight. But on March 20 this food was substituted for a mixture of bran, corn and oil cake, in the proportions of 3, 6 and 1 parts respectively. The steers in lot 1 were fed 7 lbs. each per day of the grain when the experiment began. Those in lot 2 were fed 9 lbs., and those in lot 3 were fed 11 lbs. The aim was to add one pound per animal at the end of every four weeks. The fodder consisted of corn ensilage and mixed hay of indifferent quality.

When the experiment began the steers in lot 1 weighed on an average 1,207 lbs., those in lot 2, 1,138 lbs., and those in lot 3, 1,155 lbs. When the experiment closed the steers in lot 1 weighed, without shrink, 1,443 lbs.; those in lot 2, 1,399 lbs., and those in lot 3, 1,405 lbs. The average daily increase in weight made by the steers in lot 1 was 1.81 lbs.; by those in lot 2, 2.00 lbs., and by those in lot 3, 1.98. The average cost of making 100 lbs. of increase with the steers in the different lots was \$3.94, \$3.69 and \$4.21 respectively. With the steer (c) in lot 1, the cost was only \$3.07 per 100 lbs. The profit from the feeding for 131 days was \$61.20 with the steers in lot 1, \$58.98 in lot 2, and \$56.16 in lot 3.

The following are three of the six conclusions reached:

1. That cattle averaging about 1,200 lbs., when put under experiment, can be brought to a good finish and in a reasonable time, on a daily allowance of meal averaging not more than 9 lbs. per day, with the adjuncts fed in this experiment, and at a less cost than if larger quantities of meal were fed.

2. That range steers put under what may be termed farm conditions can be made to yield a substantial profit when judiciously bought, fed and sold.

3. That since cattle that are being fattened in the feed lots of the west are usually fed much larger quantities of meal or grain than were given to the steers in this experiment, the conclusion would seem to be legitimate that much of the meal or grain so fed is wasted.

Range cattle are beginning to move east. A lot of good stock has come from along the line of the M. & N. W. railway. J. T. Gordon, of Gordon & Ironsides, estimates that the number of cattle shipped out of Manitoba and the Northwest this year will be below that of last year.

In putting up cattle to feed, it is always best to select those of the very best quality. Very cheap cattle do sometimes make money for a feeder, but as a rule cheap cattle are poor cattle that will not respond to the feed fed them. As a rule, the greatest gains are made by the best animals. Therefore, put up none but the best.

Heavy vs. Light Grain Rations for Fattening Steers.

It has been the practice of the feeders in the Western States to feed their fattening steers a very heavy grain ration and to allow the hogs to follow the steers to get anything that would pass through them undigested. It is believed to be a wasteful way of feeding and that a smaller grain ration would be productive of as great a gain and at a much lower cost. The results of the experiments conducted by Professor Shaw, at the Minnesota Experiment Station, for two years in succession, go to show that there is a great deal of truth in the contention for a lower grain ration. These results are given in this issue.

There is also a difference of opinion among good feeders on this side of the line in regard to this question, some believing in a heavy grain ration, others in a light one. Professor G. E. Day, of the Ontario Agricultural College, Guelph, has conducted experiments along this line for two years, and the results of the experiments in both years agree very closely with those obtained by Professor Shaw. In the second year nine steers were divided into three groups of three steers each. Group 1 was to get one pound of meal per day for each 100 lbs. live weight; group 2, two-thirds of a pound, and group 3 only one-third of a pound to begin with but to be gradually increased as thought best until it equalled that of group 2. The balance of the ration was similar in the three groups. The average gain per steer in group 1 was 301.65 lbs.; group 2, 285 lbs.; group 3, 297 lbs. The average gain per steer per day in group 1 was 1.68 lbs.; in group 2, 1.59 lbs.; in group 3, 1.65 lbs. These results are conflicting, but speak well for the low grain ration. The differences may be accounted for by the individuality of the animals. In the first experiment the medium ration gave the best results, in the second one the results are reversed. But the results of both experiments are decidedly in favor of the lighter rations. Putting these results on a dollars and cents basis, taking the same values for the different feeds in both experiments, we have the following:

	Group I. (Heavy Ration.)	Group II. (Medium Ration.)	Group III. (Light Ration.)
Cost of 1 lb. gain in the first experiment	6.37c.	5.59c.	5.91c.
Cost of 1 lb. gain in the second experiment	7.70c.	7.26c.	6.46c.
Cost of 1 lb. gain, average of the two experiments	7.03c.	6.42c.	5.13c.

It will be readily seen that taking an average of the two experiments, the light grain ration gave the most profitable results. The following is a similar summary of the two years' experiments conducted by Profesor Shaw:

	Group I. (Light Ration.)	Group II. (Medium Ration.)	Group III. (Heavy Ration.)
Cost of 1 lb. gain in the first experiment	3.55c.	3.72c.	4.37c.
Cost of 1 lb. gain in the second experiment	3.94c.	3.69c.	4.21c.
Cost of 1 lb. gain, average of both experiments	3.74c.	3.70c.	4.29c.

These results are slightly in favor of the medium ration, but so little that the light ration may really be said to equal it. It is rather remarkable how closely the results agree. They speak most strongly for the light and medium rations as the most economical ones to feed. These experiments do not, however, settle this question. They will have to be repeated a number of times before we can feel that the results are conclusive. The teaching of them, so far as they go, however, is

plain, and is in harmony with the work of Prof. J. W. Robertson at the Ottawa Experiment Station, when he found better results from a light grain ration rather than a heavy one in the production of milk. Feeders will do well not to feed too heavy a grain ration when animals are first put up to fatten. A third of a pound a day for each cwt. to begin with, gradually increasing to a little over two-thirds of a pound a day for each cwt. of live weight, will give good results, provided the balance of the ration is good first-class fodder.

Polled Kansas Cattle.

W. W. Guthrie, of Aitchison, Kansas, has developed a new breed of cattle, to which he has given the above name. He is now breeding in the fifth generation. Hereford blood predominates, and is crossed with the best quality of Short-horn. They are polled, white face, dark red body, square build, broad back, early maturing, easy keepers and fair milkers. Examples of this new variety will be shown at the Omaha exposition in October.

Remedy for Horn Fly.

In some quarters the horn fly is again reported troublesome to dairy cows and other cattle. An effective remedy consists of seal or fish oil, worth about 60 cents per gallon, and crude carbolic acid, about 25 cents per pint. Mix thoroughly four tablespoonfuls of the acid in one gallon of the oil, and rub on the cattle with a rag once a week. Be careful not to apply too heavily on the back. It will also kill the warble fly and vermin. Mr. Wm. Renrie, farm superintendent at the Ontario Agricultural College, who uses and recommends this treatment, finds it excellent for winter use, also going over the herd thoroughly about three times in the season for vermin and to put the hair and skin in nice handling condition. A gallon of the mixture would do about 30 animals.

Wintering Stock.

It pays no farmer to "winter" stock. Young stock that stand still or go back during the winter take the most of the summer to get in condition to do anything for their owner. They are fed nine months to make three months' growth. It will pay every farmer to look over his stock now and decide upon what he will winter. Keep nothing but what will give good returns either in growth, work, milk, wool or increase. Better to sell now at a low figure than to feed all winter and sell in the spring at a still lower price. Get those that are to be sold into as good condition as possible. Those to be kept over winter should be put into good condition, and the effort should be made to have every animal make a steady gain all winter. Better to keep a few less in number and do well by them than to half keep a large number. Cull out the poor ones and keep only the best.

Rush along the feeding of the stock that are to be sold this fall. Don't neglect them during harvesting and threshing, but keep them improving every day.

American feeders are going to have difficulty in getting a supply of thin cattle for feeding. The supply is not plentiful, and those who have them want them themselves.

Argentine Competition.

It is not so many years ago that the stockmen in the Argentine began buying pure bred stock in England to cross upon their range cattle. It was hinted at the time that they might become sharp competitors of Canadian cattle, but the answer was that there was no fear. What do we see to-day? They are beating Canadian cattle right out of the market. They are sending cattle of better quality to England than we are to-day. They have not ceased to import the very best of stock, often paying large prices for it. In fact, for some years the Argentine have been the best buyers the English breeders have had. During this time importations to Canada almost ceased. Our range stock wants bulls of extra quality. Our range cattle have gone back while the Argentine stock has been steadily going ahead, and they now have a lead that it will be very difficult for Canadian cattle to overtake. They are doing the same thing with sheep that they have done with cattle. For some years past they have been buying the very best rams that were for sale. The ram sales were well attended by these buyers, and large numbers have been sent out to improve the flocks of the Argentine. Money has not been stinted in the purchase of the very best that was to be had. The English sheep breeders have found them good customers. This year they are making a new departure. Hogs of every breed are being bought to test the different breeds in their climate. Canadians who went over to England have had to pay good prices for their swine this year. When the Argentine buyers begin to buy up go the prices, because they will have the stock, no matter what the price is. It is said that we need not fear their competition in pork. There may be no need to just now, but there will be inside of ten years. They have a climate well adapted to stock raising, and can raise anything that we can in Canada. The only thing that will hinder the development of the pork industry there is that they have not made dairying a success as yet, but they are trying to, and ultimately will, so that we may look for competition there in time. They have the money, the country, and men with the push to make it a success. We must not slacken our efforts in producing the best and raising our standard of excellence higher and higher.

American range cattle are in very good condition this season. There is a shortage of cattle on the ranges and pastures have been extra good.

An American Shorthorn breeder says: "Red is a bad color in nine cases out of ten. He can tell a white or roan blindfolded. Only one red in a dozen is a mellow handler when a year old." Very few Americans have got to know so much. Wonder where he learned?

The Americans have made beef raising their specialty, and they send a much better quality of beef to the old country than we do. On the other hand, Canada has made dairying her specialty, and in this leads the Americans. Our position in cheese is one of which we might well be proud, and our butter trade is increasing by leaps and bounds.

Professor Behring, the discoverer of vaccination against diphtheria, is reported to have succeeded in producing from tubercle bacilli a poison about twenty times as strong as that found by Koch, and he has also produced an anti-toxin, or counter poison, from 80 to 100 times as effective as Koch's tuberculin. He injected the poison into animals gradually,

and by degrees they became immune or resistant to the disease. From the blood of such animals he extracted the anti-toxin, which, when injected into other animals, renders them altogether incapable of "taking" the disease. At the Royal Veterinary College, Berlin, experiments are now in progress with the idea of making this discovery useful to stock breeders and cattle owners throughout the world. If these experiments are successful, a great boon will have been furnished the world, and no longer will the tuberculosis question trouble us.

In the suppression of tuberculosis infecting the stables is a most important thing. It should be done during the summer time when the cattle are out at pasture. Sweep down all cobwebs, dust and sweep out the stable most thoroughly; then give all the inside of the stable a thorough good coating of lime whitewash. In fact, a good coating of whitewash should be applied to every stable whether there is tuberculosis there or not. If tuberculosis has been found or there are suspicions of it, every manger and feed trough should be most thoroughly scrubbed out with a dilute of carbolic acid; then whitewashed. There are several spray pumps made now that handle whitewash perfectly. Sunlight is a most important thing in a stable. The germ of tuberculosis is killed if exposed to direct sunlight for six hours; therefore, get all the sunlight you can into your stables. Sunlight, cleanliness, whitewash and fresh air are sworn enemies to tuberculosis.

Farmers in Manitoba can grow all the coarse grains in profusion. What is to hinder them, then, using these grains to fatten steers during the winter? There are plenty of the range steers that would pay a handsome return for a sojourn in a good feeding lot during the winter. Many range steers are fattened this way across the border on their way from the ranges to the stock yards. The railway companies bill the stock right through to their ultimate destination, but allow the stock to be stopped off and fattened on their way to this destination. The only extra charge is a small fee for shunting. By means of this arrangement better fitted animals reach the market and the farmer realizes a good price for the food he feeds the cattle. We feel sure similar terms can be secured from the railroad authorities on this side of the line. Our farmers could have this as a side line for winter work. It would work up all their surplus feed and convert all their straw into manure. Such cattle could be pastured on rape early in the fall, and thus put in fine condition for making a good gain during the winter. Just as the States to the south of us have become the fattening ground for the cattle from the ranges to the west, so should Manitoba be the fattening ground of range stock from our western lands.

AUCTION SALE OF HOLSTEIN-FRIESIAN CATTLE.

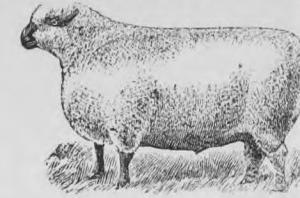
The undersigned will offer at public auction, at his farm, Hayfield, 12 miles south of Brandon, and six miles north of Carroll, on C.P.R., Glenboro branch, on THURSDAY, OCTOBER 20th, 1898, the whole of his herd of 22 head (four bulls and 17 females).

This sale offers most excellent opportunities to parties wishing to add to and improve their herds, as the foundation cows of this herd were selected from the best herds in the United States and Canada and are of the Clothilda, Abberkerk Jewel, Netherland and Teake families. The animals are mostly all young and in good healthy condition. Certificates of registration produced at time of sale.

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RAMS! RAMS! RAMS!



Some exceptionally fine Ram Lambs for few shearings left. Also Ewes and Ewe lambs. This flock again maintained its high repute winning every 1st and 2nd in the Shropshire at Winnipeg Fair, 1898.

ORDER EARLY. PRICES RIGHT.

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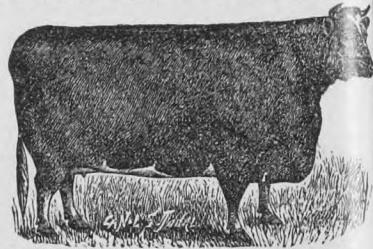
Shorthorn and Ayrshire Cattle
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Correspondence solicited.

2260

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I offer for sale TOPSMAN, the champion Shorthorn Bull at Winnipeg Industrial, 1897. I have him on my herd as long as is prudent. He is a stock-getter, none better and will be the one who gets him. I have 8 bull calves sired by Topsman and Stanley 6th. Anyone wishing to obtain a first-class animal will make no mistake in writing.

J. G. BARRON, Carberry, Man.



English Berkshires,
Mammoth Bronze Turkeys,
Toulouse Geese,
Light Brahmans,

For
Summer
and Fall
Deliver

My first-prize registered JERSEY BULL for sale cheap. Write for 1898 catalogue.

WM. KITSON,
BURNSIDE, MAN.

REGISTERED LINCOLN SHEEP

AND CHESTER WHITE HOGS

AT MAPLE AVENUE STOCK FARM

We will sell for cash—2 carloads shearling Ram Lambs. Our breeding stock imported from some of the noted English flocks, viz.—Wright Roos, Herds, Peers, Duddings and others. We also have a choice lot of CHESTER WHITE HOGS, the Silver strain, and A.J.C.C. JERSEYS. Write before buying elsewhere. Address, F. H. NEIL & CO, Railway Station, Lucan, Ont. P.O. Box 85, Lucan, Ont. (2122)

SHEEP.**The Golden Hoof.**

The sheep industry of the United States as a whole was never in a more prosperous condition. The lamb crop, however, does not show as large a percentage as usual, due apparently to two reasons. Owing to the rapid increase in the size of the flocks, fully 90 per cent. of the ewes of last year's lamb crop being retained for the purpose of producing wool, there was a scarcity of bucks, the increase in ewes being fully 50 per cent. greater than the increase in male sheep. This had a serious effect on the lamb crop. In addition to this, the universal cold rains during lambing season caused a mortality of from 15 to 35 per cent., according to location, so it is doubtful if the lambs will equal 60 per cent. of the number of ewes, which, being estimated at 17,000,000, would make the lamb crop about 10,200,000. All sections report forage the finest in ten years, and the lambs are larger and fatter than usual at this time of year, the only exception being in one or two limited sections along the Pacific coast where drouth has prevailed. A new feature expected to be encountered in the eastern markets this season is a demand from the far eastern states for ewes for breeding purposes. During the depression of the wool and sheep industry in recent years, eastern flocks were permitted to run down to a very low point. Under the present prosperous conditions, farmers are anxious to expand their flocks again, and the consequent demand for ewes, which the west will have to supply, will, it is estimated, require over 500,000 ewes to satisfy.

Sheep Scab.

The U. S. Department of Agriculture has in press and will soon issue Bulletin No. 21, Bureau of Animal Industry, entitled "Sheep Scab: Its Nature and Treatment." This bulletin was prepared by D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry, for the purpose of correcting many erroneous ideas prevalent regarding the exact nature of the disease and the methods by which it may be eradicated; and to meet the necessity of exact information on the subject. It begins with a historical introduction showing that this disease, one of the oldest known, most prevalent, and most injurious maladies which affect this species of animals, is a contagious skin disease caused by a parasitic mite, and that the impression that has arisen among some sheep raisers that the scab is hereditary is incorrect. The bulletin says: "By far the most rational and satisfactory and the cheapest method of curing scab is by dipping the sheep in some liquid which will kill the parasites." Dr. Salmon also says: "The disease of scab is one of the most serious drawbacks to the sheep industry, and results in enormous financial losses. Yet, despite its insidious nature, its ease of transmission, its severe effects, and its prevalence in certain localities, it is a disease which yields readily to proper treatment. If all the sheep owners of the country would dip regularly and thoroughly, there is no reason why this scourge should not be totally eradicated from America. There should be stringent scab laws, with inspectors to see that those laws are carried out." The bulletin is illustrated by six plates and thirty-six text figures.

Sheep can be wintered this year very cheaply on any grain farm. Oat straw, foul seeds from the thresher, and a handful of oats now and then will bring them through in capital shape.

A Sheep's Ideas.

When sheep are driven through a narrow gate, a very common performance is for one sheep to give a leap as if over an obstacle or across a ditch. If one gives a leap all the others to the rear of it, on reaching the same spot, follow its example. Wild sheep always appoint sentinels and leaders, and adopt their ways of progression in the most implicit manner. The origin of the jumping habit of a flock when one only gives the example is very ingeniously explained in Dr. Louis Robinson's work, entitled "Wild Traits in Tame Animals." "When sheep in a wild state," he remarks, "dash off together among broken ground, or on crowding along some perilous ledge on the mountain side—their usual habitat—it would be quite useless for those in the middle of the band to endeavor to see obstacles at their feet. Hence each keeps an eye on the leader, or those immediately in front and imitates his movements. If the leader thinks a three-foot jump is necessary to clear some dangerous spot every sheep in the procession will take a three-foot jump; if he jumps higher, they will jump higher, and so on. They carry out this imitated action with a most extraordinary precision, even when it has to be transmitted through a long chain of different individuals."

It is estimated that the recent drouth in Australia has carried off sixty million sheep. This loss will, it is believed, render it impossible for Australia to supply any of the mutton needed for the British markets. With an increasing local demand and decreasing supplies in the United States and a total stoppage of export from Australia, sheep ought to be better property in Canada for a year or two than they have been for a long time.

An experienced shepherd gives the following method of relieving bloated sheep when one does not possess a trochar and canula: Put a stout stick an inch in diameter between the jaws as a bit would be put into a horse's mouth. Tie a string to each end and fasten around the head. The efforts of the animal to dislodge the stick will cause it to belch the gas and so obtain relief. This will not take the place of a trochar in all cases, but as an emergency measure it will often save valuable animals. The same plan will apply to cattle similarly circumstanced.

The Lincoln sheep is said to have the longest fleece of the three English long wool breeds, Lincoln, Leicester and Cotswold. The fleece of the Leicester is of a little shorter staple and has a grayish tinge, while the Lincoln fleece, when clean is silvery white. The Cotswold alone of the three has a heavy foretop. It has a white fleece like the Lincoln, though it is shorter and inclined to be wavy, the Lincoln fleece hanging in flakes or locks. The three are in fineness as follows: Lincoln first, Leicester second and Cotswold third. All are lustre wools, as coming in smooth, glossy surface, as compared with the felting wool of the several Merino families. In the trade they are known as the braid wools.

A woman in Virginia is making money by raising sheep. She is a school-teacher, and she has a home, with some acres of land which she had not time to cultivate, but which she wished to turn to account. She spent \$25, paying \$3 a head for ewes, and then turned her flock into her pasture land. She raised what she could care for on her land, selling the rest as soon as they were of marketable age. She gave only about one hour a day to them, and paid a boy fifty cents a week to keep the sheds clean and the fodder cut up. She

has been in the business about five years. The first year she came out \$40 ahead of her experiment. At the end of the fourth year she had a flock of 60 ewes, all she could keep with her pasturage, and in wool and mutton she found she had a clear yearly income of \$450.

SWINE.**Our Bacon in England.**

J. E. Brethour, of Burford, Ont., President of the Dominion Swine Breeders' Association, has just returned from a trip to England, and gives in a Toronto exchange some interesting facts about Canadian bacon in England. Our pork products are rapidly taking the place of Danish and Irish goods. The supplies from these countries seemed to be deteriorating rather than improving. This deterioration is attributed to the use of American corn. The Americans have been pushing their export of corn, and have quadrupled it in four years. It is cheap feed, and on that account it is thought that the Irish and Danish farmers have been feeding it, and an inferior article is the result. This is a lesson Canadian pork raisers should always remember—corn will not produce the quality of pork that will bring the highest price. Corn-fed hogs are always soft. The English dealers give the Canadian packers great praise for the way they have developed the bacon trade, and farmers owe them a greater debt than they are aware of. They put up their goods in a much neater, cleaner way than do either the Irish or Danish packers. As evidence of the great improvement in Canadian bacon and the decline of the Irish article, one dealer said that 70 per cent. of the Canadian bacon would grade No. 1, the balance No. 2; while with Irish bacon it is the other way. No. 1 Irish brings a little higher price than No. 1 Canadian, not because it is worth it, but because of sentiment. If our goods continue to improve as they have done, they will take the top place soon. One dealer said, "Tell a Canadian what you want and he will try and produce an article that will meet your requirements. Tell an Irish farmer the same thing and he will say that he knows as much about the matter as you do." This is the true spirit in which to cater to a new market. It makes no difference what our own opinion is. What we have to do is to meet the wants and wishes of those to whom we wish to sell.

Mr. Brethour says the Americans are starting a trade of fresh pork in London. The pork is sent over in refrigerator compartments in just the same way as beef has been sent for many years. Quite a trade is being built up. But American pork is not of as good a quality as the Canadian article. While American hams sell for 3d, Canadians bring 6d. They are awakening, however, to the advantages of the bacon hog, and no doubt will soon give us keener competition. A new competitor is likely soon to come on the scene—that is the Argentine Republic.

Speaking of the most valuable parts of a side of cured meat, Mr. Brethour said that the Englishmen divide a side into three pieces. The fore, which takes the neck and shoulders; the middle, taking the rest of the side down to and including about one-third of the ham; and the gammon, which is composed of the remainder of the ham. The respective values of these parts at the time Mr. Brethour made inquiries were: Fores, 36s; middles, 48s; and gammons, 64s. The remarkable point about these prices is that not enough gammons can be secured to meet the demand, even at 64s.

In regard to the breed, English buyers express no preference for any particular breed. What they want is shape. They want a side as long as possible, full of lean meat and with a thick belly. English dealers all say our sides have improved immensely and are now as good as can be got. The popularity of the Yorkshire is because it gives a deep side of even thickness, with a large amount of lean meat and with the ham well down on the leg, giving plenty of gammon. One English dealer said that there was no fear of the trade being overdone if Canadian farmers are true to themselves and the best interests of the trade, because no matter how great the quantity of Canadian bacon sent to England it pushes out the cheaper sorts of Danish and Irish, owing to the superior quality of the Canadian article. He advises Canadian farmers to keep up their supply of hogs from January to December. Just when a large quantity of Canadian bacon could be handled, viz., during the months of July, August and September, the quantity falls off to the lowest degree, and there is scarcely enough hogs to go round the curing houses. This gives an opportunity for the Danish and Irish supplies to regain their old places again. Highest prices always prevail during those months also, and as far as possible farmers should try to market all the hogs they can then. On Sept. 1st the highest price going at Winnipeg was 5c. a pound, live weight.

Canadian Hogs Ahead.

Our readers will remember that some time ago the Armour Packing Co., of Chicago, purchased a shipment of Canadian bacon hogs to compare them with American corn-fed hogs. F. W. Hodson, Superintendent of Farmers' Institutes for Ontario, has received the following letter from the Armour Packing Co. in reference to this trial shipment, as follows:—

"The shipment consisted entirely of Yorkshires. The meat produced by them is of excellent quality, very firm, and the fat perfectly white. The appearance of this lot of hogs was splendid and we anticipated at the time we slaughtered them that we would be able to get sufficient premium on account of the excellent quality of the meat to quite repay us for the extra expense to which we went paying duty, etc. We slaughtered the Canadian hogs along with an equal number of carefully selected light Missouri hogs, gave the goods exactly the same cure and shipped them at the same time. Unfortunately, however, the English market for Wiltshires, into which cut the hogs were made, had declined considerably since we put the goods down, and they therefore showed a rather smart loss, so that from a financial standpoint our experience was not a success. It was, however, a revelation to us to see the splendid condition and the fine appearance of the Canadian hogs, and we feel very sure that the Canadian system of careful breeding and feeding is the correct one. We have come to the conclusion that the best breed of hogs for the fancy export trade is a cross of Tamworth boar and Yorkshire sow. The food for the first four months of the pig's existence would make really very little difference whether it be corn or smaller grains. However, from four months up to the time it is marketed, say for six months, we are of the opinion that the use of corn should be discontinued entirely and the animal fed on peas, barley or crushed oats, with a fair proportion of green vegetable food. We are also of the opinion that the weight of the hogs should not exceed 200 lbs. nor do we think that more than six hogs should be fed together in a pen, as then there is no crowding

among them at feed time, and it is necessary that the animal should be given all the comfort possible. We have seen some very fine hogs raised in dairy districts, and we believe that Ontario is singularly fortunate in this respect, having such a large number of dairy farms. These always bring good, healthy pigs with a very fine quality of meat. The Canadian hog-raiser is away ahead of the American at present, at least in so far as the English market is concerned. The Canadian singed Wiltshires command a very high premium, and rank almost equal with the finest Danish bacon on the London market."

Note.—It is a great mistake to say, as is said above, that corn is a good feed for very young pigs. The reverse has been shown in numerous instances. There is too little protein in corn. Young pigs need food rich in bone and muscle.—Ed.

Charcoal for Hogs.

Fattening hogs eat charcoal greedily, but that made by charring corn on the cob is eaten best, and is all that is needed to keep them in health. At one of the Minnesota Farmers' Institutes, Theodore Louis told how he makes cob charcoal on a large scale where hogs are kept by the hundred. He digs a hole five feet square at the top and five feet deep. Into this he throws some cobs, setting fire to them as they are thrown in until the hole is filled. Then the hole is completely covered, banking earth against the edges of the cover. In twelve hours uncover, and the cobs will be found completely charred, so that they will easily crumble. Six bushels of this are then mixed with eight pounds of salt, two quarts of air-slaked lime and a bushel of wood ashes. Dissolve one and a quarter pounds of copperas with hot water, and sprinkle over the mass. This mixture aids digestion and destroys the intestinal worms with which fattening hogs are always infested. Hogs, thus fed, have no occasion to root, as they get what they require without labor.

Manitoba farmers haven't got corn cobs to burn, but wood cut up in short pieces can be burned in this way and used instead of the cob charcoal for feeding the pigs with good results. Poultry will also use finely powdered charcoal in their feed.

Pigs as Gleaners.

Some interesting experiments have been made at the Montana Experiment Station to determine the value of grain left in stubble fields being lost at the time of harvest. A lot of pigs which had been pastured on alfalfa and fed one pound of cracked barley a day were turned into some stubble fields and left to find their living from the scattered grain except during stormy days. At the end of the experiment it was found that after deducting the gain for the grain fed during stormy weather the pigs had gained as much as they would if they had been fed 3.228 pounds of grain, counting four and one-half pounds of grain for each pound of gain in weight. This amount of grain was gleaned from about thirty-nine acres of stubble, eighteen acres being barley stubble and a little over ten acres each of wheat and pea stubble. Could they have the run, pigs would find a good picking in many of the wheat fields in Manitoba.

Mr. Hoddinott, Bird's Hill, has had first rate success in fattening fall litters of pigs for years past. They drink a good deal of skim-milk in the fall along with a bite of barley chop, are kept in a warm house all winter with ground barley as principal feed.

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"My husband suffered with stomach trouble so bad at times he could not work. He has taken Hood's Sarsaparilla and it is helping him wonderfully. He also had a scrofulous humor but Hood's Sarsaparilla cured this and he has had no trouble with it since. My little boy, too, has been taking Hood's Sarsaparilla and it has given him a good appetite. We have great faith in Hood's Sarsaparilla." MRS. J. H. EDWARDS, 50 Edinburg St., Rochester, New York. Be sure to get Hood's because

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Mention Nor'-West Farmer when writing

Rape for Pigs.

The value of rape as a food for cattle and sheep has been made known all over the country, but less has been said about its value as a food for swine. Feeders in Ontario found out that it was a most valuable food for pigs, and now it is being tried at the Wisconsin Experiment Station. Prof. Carlyle has a number of sows and their spring litters feeding on a patch of rape. The rape was planted quite early in the season in drills and cultivated. It is now about 15 inches high and the pigs work in between the rows much the same way as sheep do, thus not tramping down as much of it as cattle do. The pigs are confined by hurdles, which are removed every four or five days, or when the patch is eaten almost to the ground and a new piece is necessary. The hurdling would not be necessary where one has plenty of land. By a succession of sowings plenty of rape can always be had for the pigs.

In a recent issue of the Breeder's Gazette, Prof. J. A. Craig, of the Iowa Experiment Station, sums up his experience with feeding rape to swine in the following notes:

1. As to the utility of rape for fattening hogs, it serves for two lines, either for summer fattening to light weights or as a preparation for winter feeding to heavier weights.

2. For summer fattening as the result of two trials—one in 1896 and the other in 1897—with fifty-six hogs in all, I found that an acre of rape would give as good results in fattening as that which I obtained from feeding 2.60 lbs. of a mixture two-thirds corn and one-third shorts.

3. Rape makes a good preparation for winter feeding. After one of the trials previously mentioned the hogs were fed for twelve weeks longer in the pens. They were put in at an average of 210 lbs. and came out averaging 340, and they were nearly as spry and strong on their feet at the latter weight as they were at the former.

4. For cheapening the cost of gain during summer fattening or to fit the hogs for quick and profitable fattening in the pens in the winter, I do not know of any crop, not omitting the clovers, that can be of more assistance than rape.

5. The hogs being folded on the rape live an outdoor life and take a certain amount of exercise in feeding themselves. Exercise means muscle, muscle means lean meat and that means a good quality of pork.

6. The hogs relish the rape, though it may be necessary to cut them down some in their grain ration at first.

7. I have not noticed that there has been the least danger from such troubles as bloating. It might be that to change them suddenly from a dry to such a succulent ration would produce bad results, but so far as my experience goes I have had only one hog die in the rape field, and that could not be credited to the rape in any manner.

8. It is an excellent crop to feed to brood stock, and if it is not handy to allow the stock to run on the rape it can be cut and fed to them in their yards. At this time we are cutting it daily for fifty head.

It is not possible, of course, to fatten the pigs on rape alone. It will, however, about maintain them and all the grain fed will go to improve their condition. It should prove a valuable addition to the somewhat limited list of green fodders that can be grown in Manitoba as summer forage for pigs. By means of it farmers could handle a much larger number of hogs during the season. The seed is cheap and farmers should prepare to have a nice patch of it for another year. If or no other purpose than as a change of diet, the rape crop will be found worth its cost. Poultry are very fond of it.

A Manitoba Pork Packing Establishment.

The J. Y. Griffin Co., Winnipeg, are firm believers in the future of the pork-packing interests of Manitoba. Moreover, they show that faith by their works. Beginning some years ago in a small way, they have had to enlarge their plant from time to time to keep pace with their ever-growing trade. Last year their trade with the Kootenay, Algoma and Yukon gold fields, the Crow's Nest railway, the Territories and British Columbia assumed such proportions that another extensive enlargement of their premises was decided upon. These have now been completed and Manitoba to-day possesses the third largest pork packing establishment in Canada, modern and up-to-date in every respect. So far this firm have not been able to get sufficient hogs in Manitoba to supply their trade, but have to import in large numbers.

The J. Y. Griffin & Co.'s pork packing establishment is situated on the east bank of the Red river, just north of the C.P.R. tracks. The new building was planned and erected under the supervision of an architect from Chicago, who is an expert in this particular line. The rearrangement of the old building and fitting it up with the latest appliances was also done under his supervision. The most important of the recent changes is the introduction of the ammonia system of mechanical refrigeration. Hitherto the cold storage rooms have been cooled by means of ice. The new system has been put in the large storage rooms, and with it any desired temperature can be maintained. The system consists of a pipe running from the engine room to the cold storage rooms. Here the pipe is led backwards and forwards, overhead in some rooms, round the sides in others, and then finally back again to the engine room. In the engine room is a thirty-ton ice machine. This machine is nothing more or less than two very powerful pumps, one a force pump, the other an exhaust pump. The force pump is connected with the pipes running from the engine room to the storage rooms, the returning pipe is connected with the exhaust pump. Ammonia is forced through the long coils of pipes by the force pump and the exhaust pump draws it out. The ammonia is pumped into the pipes under great pressure, and as it enters the coils of pipes in the storage rooms it expands; when it expands heat is absorbed from the room. The moisture in the storage rooms is condensed and frozen on the pipes. At the time The Farmer's representative visited the factory, the ice on the pipes in the storage room was about three-quarters of an inch thick. The atmosphere was dry—not moist, as it always is where ice is used—thus making it impossible for mould to develop.

The most of the ground floor is used for a shipping room and office. Back of the shipping room in the east wing is the fertilizer room, where the bones, refuse and blood are converted into fertilizers. In the rear is the engine room and boiler house. Besides the ice machine, the engine room contains the engine and dynamo, the building being lighted throughout with electricity.

On the first floor the central portion of the building is occupied by the large cold storage chamber for dairy produce. In the eastern wing is the lard rendering room, and back of it the sausage room. The top story is perhaps the most interesting part of the building, for here is where the killing is done. A long elevated gangway leads the hogs up to the rear of the top story of the eastern wing.

When the hog enters the building a grappling chain is made fast to one of his hind legs, and before he knows it he is strung up by the heels and slid along to the sticker, who with one dexterous stroke of his long knife lets flow the life blood. As soon as life is extinct the pig is dropped into the scalding tank. He is rolled around here and then onto a lifting rack, which lands him on a table in front of the scraper. A chain is fastened in his jaw and he starts through the scraper. This machine is an ingenious contrivance, whereby innumerable little knives all take a scrape at the porker as he passes through, so that when he emerges on the other side on a table he is quite clean. The scraping is finished by hand, the gamble put in, then the hog is hung up on the trolley and started on his way to the cooling room. One man washes him, another cuts him open, a third removes the intestines, a fourth the heart and lungs, a fifth splits him down the back, and another washes out the inside. He is then automatically weighed as he passes out on his way to the cooling room. There are two cooling rooms, each capable of holding about 400 hogs. When thoroughly cooled the carcasses are run out into another room, cut up and distributed to different parts of the building, where they are further treated. Four large smoke houses are used for smoking the meats. In the basement are other large cooling rooms used as pickling rooms or for dry salting or as storage rooms. Altogether J. Y. Griffin & Co. have a thoroughly well-equipped and up-to-date factory, capable of handling 500 hogs a day. In all in their spacious building they have about 105,600 square feet of floor room. The business of this firm has expanded until now they have branches in Vancouver, in the Kootenay and at Rat Portage. Besides the pork business they are handling a large amount of dairy products, and with their large cold storage capacity they should be able to do a very large trade elsewhere in this month's issue will be found a few half-tone engravings, illustrating this establishment.

If our farmers could follow their hogs to the packing house, see them after they are slaughtered, and be paid for them according to the quality of pork they make, it would be one of the best lessons they ever got, because it would place a cash value on care in breeding and feeding that they never realized before. In Denmark each farmer has to take his own pigs to the factory and gets this lesson, and a large share of their success is attributed to the lessons the farmer learns there. It is, of course, impossible to introduce such a system here, but it will pay any farmer well to follow his hogs to the factory, see them after they are cut up, and find out how they compare in value with others. To a drover all hogs are alike, and as a rule they are all paid for alike. The loss on one is made up by the gain on another.

The prize list of the Smithfield Fat Stock Club has been issued. The show will begin the 5th of December, and will be the centenary show of the club. The prize list in 1799 was only £52. 10s., while in 1898 it has grown to the enormous sum of £4,956, 11s. In addition to other premiums, centenary silver medals will be given to the breeder and exhibitor of each first prize animal. In addition to the Queen's challenge cup (value £150) offered for cattle, a challenge cup (value £100) is offered by the Prince of Wales for sheep, and a challenge cup (value £50) is offered by the Duke of York for pigs.

Among the Breeders.

J. Walsham, of Portage la Prairie, is increasing his herd of pure bred Jersey cattle, and has purchased another heifer from Mrs. E. M. Jones, of Brockville, Ont.

By reference to our advertising columns it will be seen that J. T. Hutchinson, of Hayfield, Man., advertises an auction sale of his Holstein-Friesian herd on Oct. 20, 1898.

Andrew Mutter, Brandon, informs us that he was awarded the second prize in the class for aged grade cow (dairy breed) instead of A. B. Potter, at the Brandon fair.

The color of the fashionable Ayrshire is every year inclining more to white. W. M. Smith, of Fairfield Plains, Ont., has bought a white Ayrshire bull calf from F. W. Hodson, Myrtle, Ont., out of an imp. dam bred by Mrs. Wilson, Boghall, Scotland.

Gold Dust, the fine Suffolks stallion, the property of Hiram Lendum, of South Edmonton, died from inflammation of the bowels the first week of August. He was one of the finest horses ever brought into the Edmonton district, having been a prize winner and medallist at many of the best horse fairs in Ontario.

R. Miller, Brougham, Ont., and F. W. Harding, Waukesha, Wis., had a large gathering of stockmen at Pickering, Ont., to meet their recent large importation of 177 head of pure bred sheep. Twenty-five Shropshire lambs are also on their way out. The importation consisted of 111 Cotswolds, 35 Shropshires, 22 Oxfords, 3 Southdowns, 4 Dorsets, and 2 Lincolns. The majority of this stock was brought out for parties hailing from many parts of Ontario and the United States.

The Crystal City Courier gives in a recent issue a very full account of the development of Premier Greenway's Prairie Home stock farm. The farm consists of 1,600 acres, of which 600 acres are under crop. 120 head of cattle are kept; of these 55 are pure bred, 40 Shorthorns, 15 Ayrshires. Shropshire sheep number 40, and some 62 Yorkshire and Berkshire swine. A carload or two of young stock will be added this fall, as the demand for young stock has been so great that the herd has been almost depleted of young stock. Some of these will be sold, too, but the majority will be kept.

John G. Barron, Carberry, Man., has decided to sell his champion bull, Topsman. This bull has stood at the head of his herd for some years, and has proved himself a grand stock bull. No one can look over the herd without failing to see the superior character of the get of this bull. Mr. Barron is loath to part with him, but, like many a good bull, he has become too closely related to the females of the herd and must make way for new blood. He will be a valuable acquisition to any herd. Mr. Barron has about completed the building of a new barn with stabling for his stock. It is 46x84 feet in size.

F. H. Neil & Co., Lucan, Ont., report: "Our Lincoln sheep are in splendid shape. We have now on hand two car-loads of shearling rams. They are all good, strong-boned, heavy-fleeced fellows. We have also a choice lot of ram lambs. The sheep have just been turned into a field of rape, the shepherd's best friend for dry weather. We have just had an inquiry from New Mexico for a carload of Lincoln rams. The western sheep trade will be a large one this fall. Lincolns are bound to take the lead, because they are a large, strong-boned, hardy sheep,

with lots of bright, lustrous wool. They make first-class rustlers for the ranges. We also breed choice lines of Chester White swine and Jersey cattle."

F. W. Brown, Portage la Prairie, writes: "Since I arrived from Ontario in April I have shipped and sold 47 head of Shorthorns, Cotswolds and Berkshires. The most of the Shorthorns and some of the Berkshires went to farmers on the Portage Plains. The balance of the Berkshires were pretty evenly divided in Manitoba, Assiniboa, Alberta, Dakota, Minnesota, and one to Ontario. My stock all arrived home from the fairs safe, and are doing well on the pasture. Lady Clifford 10th, my best breeding sow, entered in the aged sow class, and which I had to leave at home on account of an accident, is all right and doing well. Highclere 20th, imported, which was ruled out at Winnipeg Industrial on account of one of her teats being slightly calloused (the judge said she had gangrene and would die) is now all right, and the so-called gangrene is gone. We are harvesting a good crop."

Wm. King, Minnokin, Man., writes: "I have moved my herd of cattle to my farm, lately purchased at Minnokin, Fork River. They came through in good shape and are looking well after their journey of 250 miles. The two heifers I received lately from J. & W. Russell, of Richmond Hill, Ont., are doing nicely. They are Royal Princess 7th, got by Scarlet Velvet (21446), dam Royal Princess 3rd (26017), by Stanley (7949.) The other is Queen of Scots by Scarlet Velvet, dam Centennial Isabella 34th (27521) by Topsman (17847). I am offering all my Berkshires at the Carnduff farm for sale, among which are prize winners at Carnduff and Oxbow fall shows and Winnipeg Industrial. I intend moving what is not sold by the fall to our farm in Dauphin district. We are offering Plymouth Rocks. Our stock is all out of stock purchased from the leading breeders of the province."

R. McKenzie, High Bluff, writes: "The following is a list of the sales I made during Winnipeg and Brandon fairs: To A. Nichol, Alexander, Victor, first prize boar under 6 months at Winnipeg and Brandon fairs. To Jas. Elder, Virden, Proud Ben, second prize under 6 months at Winnipeg, and first prize under one year at Brandon. To Thomas Webb, Clearwater, the second prize boar under 6 months at Brandon fair. One boar to each of the following: R. McKelvey, Wellington, Man.; W. Peel, Pigeon Bluff, Man.; J. W. Irwin, Emerson, Man.; W. Hume, Saltcoats, Assa, N. W. T.; R. Lang, Oak Lake, Man.; Lewis Calder, Gretna. A sow each to R. L. Lang and James McKenzie, Kemnay, the sows being the winners in the 6 months' class at Winnipeg and Brandon; also a sow to John T. Denbow, Deleau, Man. I have sold a pure bred Holstein cow, in calf, to Wm. Hume, Saltcoats, Assa. He also intends to take a yearling heifer in the spring. This party bought a sow in pig from me last fall and is greatly pleased with her. He says they beat some pigs that came through from Ontario. This speaks well for our Manitoba-bred pigs. My stock are doing well."

John E. Smith, of Brandon, is a stock breeder who, though he did not for private reasons appear in the show ring this year, still keeps up to date, believes as much as ever in printers' ink, and keeps the stock to back up what he has to say. A Farmer reporter was at his residence, and, of course, asked a few questions about his stock. They were almost all away at his Beresford stock farm, so we had to forego the pleasure just then of seeing most of them. Mr. Smith took a trip

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"CRETQUE MONTGOMERY PRINCE"

The Diploma Bull of Brandon, 1898, for sale.

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JERSEY BULLS FOR SALE.

I am now offering my stock Bull, **BELVEDERE STOKE POGIS**, for sale, also several young Bulls. Write for particulars.

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CARTER'S FENCE MACHINE can be seen at hardware or implement shops in the principal towns in Manitoba and you will then know it will not pay to use barbed wire. Price \$15.00.

Fred Smith, Brandon
2201

this summer to Ontario and brought out two carloads of working horses. He says there has been a great demand for horses around Brandon this season. A look into the stall of Sir Arthur showed us that the stallion was looking just as of old. Mr. Smith has a splendid lot of colts this season, and attributes their healthfulness largely to a wholesome (I was almost going to say rough and tumble) handling of the dams. He works them right up to the time of foaling, but never collars them again till the colt is weaned. He finds he has the best success by allowing the mare no sluggishness before foaling, but afterwards giving her and the colt the full freedom of the pasture for a few months. Some of his best blooded stock were on the binder at the time of our visit. It was at the mention of Shorthorns, however, that Mr. Smith warmed up. This season's lot of calves are the best he has ever had in his fifteen years' breeding, and he feels prouder than ever of his 4-year-old bull, Lord Stanley 2nd. He has never been shown, and the owner says he never will be as long as he is in his possession, as he thinks too much of him as a stock animal to risk the fitting process upon him. He is, however, one of those animals with "blue blood" in his veins, as his dam, Roan Princess (imp.), owned by J. & W. Russell, of Richmond Hill, Ont., won first prize at the Highland Society show in Scotland as a 3-year-old, and three other of her calves stood in the Durham sweepstakes herd at the World's Fair. Lord Stanley 2nd was dropped on the way home from Chicago. Speaking of that peculiar something, generally designated as "the times," Mr. Smith said that he had never found more demand for his crop of young bulls and stallions than this year, and thinks the prospects for high grade stock never were better than just now.



Answers to Questions.

By an Experienced Veterinarian.

As it is desired to make this column as interesting and valuable as possible to subscribers, advice is given in it free in answer to questions on veterinary matters. Enquiries must in all cases be accompanied by the name and address of the subscriber, but the name will not be published if so desired. Free answers are only given in our columns. Persons requiring answers sent them privately by mail must enclose a fee of \$1.50. All enquiries must be plainly written, and symptoms clearly but briefly set forth.

"Lampas."

J. A. K., Carlton: "I have a mare four years old; has had lampas (or lampers) for about eighteen months. Kindly let me know what is the cheapest and best cure for lampers."

Answer.—Lampas is a disease much talked of among grooms and blacksmiths, but treated with scant courtesy in veterinary books, being generally passed over in silence or else referred to as an imaginary ailment, existing only in the minds of ignorant hostlers. The reason for this is that lampas is not a disease per se, but only a symptom of severe derangement in the mouth or stomach. To treat it as the "cause," when in reality it is only an "effect" of some other trouble, is the illogical method pursued in too many cases by the local wiseacre who may have heard that your horse is not thriving. He opens the animal's mouth and points to the full-

ness of the gums behind the upper teeth, and says confidently, "He has the lampas," as if that was sufficient to account for anything. If you don't happen to think yourself proficient in horse knowledge, you most likely bow before his superior horsemanship, and submit your horse to be lanced with a knife, pricked with a horse nail, or possibly (though don't tell anyone) to have the lampas burnt out with a red-hot iron. The horse suffers but can't say anything, and if he afterwards shows any improvement in condition, why, the lampas cure did it. It is hardly necessary to point out the absurdity as well as the cruelty of the business.

The tumified, swollen condition of the gums known as lampas is a natural condition in young horses, and is concurrent with the period of eruption of fresh teeth. Consequently, your mare, aged 4, and replacing several of the milk teeth with permanent ones, as well as making preparations for the eruption of the last molar in each jaw, is just at the period when this condition would naturally occur. To treat the normal state of the gums as a disease under the name of lampas is a mistake and has been exposed so long and so often in the columns of agricultural and other papers that it is surprising to find that people still believe in it. There are people, too, who won't plant their potatoes or hoe their corn until the moon is in the proper phase, but perhaps it is better to leave them their simple faith unshaken by the cold logic of facts.

Enlarged Fetlock.

H. W., Montrose:—"My mare, now 10 years old, had her hind fetlock slightly cut two years ago this winter and got frost in the same. Swelling has never gone down, and she now has a discharge, and fetlock and joint have a warty appearance. Can you help me at all?"

Answer.—The removal of chronic enlargements about the lower part of the legs is a difficult matter, and in old-standing cases is often impossible. For the warty growth apply the following ointment, which any druggist will compound for you: R, Salicylic acid, 1 ounce; almond oil, $\frac{1}{2}$ ounce; vaseline, 2 ounces. This is to be rubbed on gently once or twice a day.

A Cattle Disease.

Farmer, Winnipeg:—"Two cows came in at night with their heads down, and every breath they drew, or rather the discharged breath, was a groan. They discharged at the nose greenish matter; their heart-beat was very fast; they refused to eat or chew their cud, consequently became very thin. One of them died, the other is a little better. Since then a four-year-old steer went the same way and his horns are going green. Kindly say cause, and prescribe for same."

Answer.—The description you give is not sufficiently clear to enable me to make out what is the matter with your cattle. The disease is evidently of a serious nature and you would consult your own interest best by calling in a competent veterinary surgeon to examine the animals and advise you how to treat them.

For Over Fifty Years

MRS. WINSLOW'S SOOTHING SYRUP has been used for over fifty years by millions of mothers for their children while teething, with perfect success. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for Diarrhoea. It will relieve the poor little sufferer immediately. Sold by Druggists in every part of the world. Twenty-five cents a bottle. Be sure and ask for "Mrs. Winslow's Soothing Syrup," and take no other kind.



ONEY Saved

is money gained.

Here is an opportunity of saving money which every farmer should take advantage of. We are offering a fine serviceable set of Working Harness for

\$26.00.

This harness may be thoroughly relied upon as being first-class in wearing qualities. It is cut from the very best stock.

Terms—Cash with order.

PEIRCE BROS.
WINNIPEG

LUMP JAW.



LUMP JAW...

Means death of the animal and may mean the infection of your herd and pastures. The application of

Fleming's Lump Jaw Cure

means quick and permanent cure of every case. Can't harm. Leaves no trace of disease. A common-sense remedy, easily applied. One to three applications cure. Endorsed by leading ranchers of the continent. Costs you not one cent if it fails to cure.

Sent anywhere by mail.

PRICE, \$2.00.

FREE—A practical, illustrated treatise on Lump Jaw sent free to readers of this paper.

FLEMING BROS., Chemists,
ST. GEORGE, ONT., and CHICAGO, ILL.

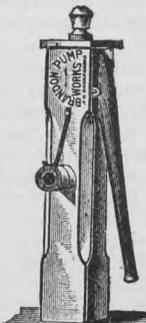
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Better than Klondyke Gold: A GOOD PUMP

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We make a specialty of large Pumps for watering cattle—5-inch bore iron cylinder, porcelain lined.

All kinds of Pumps repaired. Office and Factory, Ninth St., opposite Northern Pacific Station.

Address—H. CATER,
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Write for Prices.

RAM FOR SALE.

Shearling Shropshire Ram for sale. Bred by Sir Donald A. Smith, from imported stock. Apply to R. WAUGH, Nor'-West Farmer, Winnipeg.

WORLD-FAMED HORSE MEDICINE-CHEST.

USED BY ALL FARMERS, HORSE-DEALERS AND CATTLE-OWNERS THROUGHOUT GREAT BRITAIN.

This Medicine Chest contains every thing a farmer needs in doctoring his own stock. No need of a veterinary. Every farmer should have one.

This chest contains the following medicines all ready for use, with full instructions for using them :-

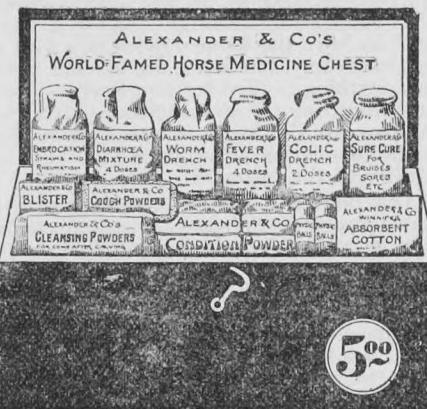
EMBROCATION.—An invaluable remedy for strains, rheumatism, lumbago, etc., for man or beast.

DIARRHEA MIXTURE.—For either horses or cattle.

WORM DRENCH.—Sure remedy for worms.

FEVER DRENCH.—For debility after hard driving, acute fever and influenza.

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5⁰⁰

ALEXANDER & CO., 208 Graham Ave., Winnipeg, Manitoba.

(BIRMINGHAM, ENGLAND.)

Opposite Manitoba Hotel.



Cream Tests.

Creamery managers always have a number of complaints coming to them from their patrons about their tests. The tests cause more trouble in a creamery than any other thing. As a rule a little looking into the matter reveals the cause of the trouble. The butter-maker, of course, is not infallible, but as a rule the fault does not lie with him. He only takes the sample as brought by the driver. The oil test churn treats all alike, so that there cannot be any favoritism shown. The most of the trouble lies in the skimming and sampling.

The amount of skim-milk taken along with the cream varies with each skimming. With the deep pails it is very easy to make quite a difference without knowing it. A difference in the temperature at which the milk is set away, in the temperature of the ice water into which it is set, in the amount of ice that is used, in the length of time the cream is allowed to rise, and in the character of the skimming, all tend to make a difference in the cream. A new hand at the skimming may also make a big difference. With the hand separator it is also possible to make a difference in the per cent. of butter fat in the cream by carelessness in running the milk through too fast, or by turning too slow, etc. Then, allowing that these conditions have all been properly guarded, the one who takes the sample may not get a fair sample, which he should get, and every patron should see that the cream is well mixed before the sample is taken. Last of all, the cows do not always give the same amount of butter fat in their milk. Read the article in this issue on "The Cost of Noise in the Dairy." A new hand at the milking, careless milking, and many other things not thought about, all have their effect on the yield of butter fat, but which are not taken into consideration when the test drops a little lower than usual. A funny thing about the test is that the creamery

manager never hears anything about a test if it goes away above the usual run of the tests.

Improving the Quality of Butter.

One reason why Danish butter brings the highest price on the English market is on account of the system of government inspection that is followed. The dairies are largely co-operative and are what we call creameries here. The whole milk is taken to the creameries, and separated, the cream is pasteurized and ripened with starters made from pure cultures. Most of the creameries place themselves voluntarily under government supervision and inspection. Several times a year these creameries have to send a tub of butter to the government station to be tested. It is judged by a committee of nine judges, consisting of six dealers and three manufacturers. The results of the judgments are sent to the makers, with suitable suggestions. If the butter made at any creamery does not come up to a certain standard at a second test, the creamery is obliged to engage a government expert. Bi-monthly shows have been held at Copenhagen for the last seven or eight years under the auspices of the Royal Agricultural Society, and they have been productive of a great amount of good.

This is a free country, and every creamery likes to be free to do as is thought best. Sometimes, however, it would be much better if every creamery was under control, so that if the maker did not make an article that came up to a certain standard, he would have to give place to another or accept a recognized expert to teach him how to turn out products that would meet the required standard.

In riding along the road one day I saw a cow with a horse collar on, and was curious enough to know what that was for. I stopped and made inquiry, and I found that it was placed there to keep the cow from sucking herself. The man said the nearest the cow could come to reaching her own udder was within about five or six inches. The cow will soon give up in disgust. If you put one on your cow, hang a placard on her neck, giving the reason for putting the horse collar on, and you will be saved the trouble of answering lots of questions, for nearly every man who passes will ask why it is done.—Ex-

SURE CURE—for cuts, bruises, sores, saddle or harness galls, etc.

CLEANSING POWDERS—for cattle after calving.

COUGH POWDERS—for coughs, colds, dispensing and influenza.

CONDITION POWDERS. — An excellent tonic for all kinds of debility.

PHYSIC BALLS.—

BLISTER.—For curbs, spavins, splints, etc.

ABSORBENT COTTON. — For dressing wounds, cuts, sores, etc.

This invaluable medicine chest, with full directions, will be sent to any address on receipt of the price, \$5.00.

The chest contains medicine enough to last a farmer for years. Should the supply of any one medicine run out, it can be renewed at the price marked on the package.

YOU RUN NO RISKS.

WE TAKE THE CHANCES.

If you have a case of **LUMP JAW** in your herd, and think it is a foregone conclusion that the animal will die, send to us and get a bottle of

MITCHELL'S

ANTI-LUMP JAW.

Follow the directions, which are simple, and if it does not cure the animal to your utmost satisfaction, we will refund your money.

Price \$2.00, sent by mail upon receipt of price. Full particulars and treatise on Lump Jaw FREE.

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PRINCE ALBERT, N.W.T.



**H.C. STOVEL,
MANAGER.**

**HAVE MOVED
TO**

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(Few doors west of Post Office.)

ENGRAVINGS...

OF ALL KINDS

...EXECUTED.

The Cost of Noise in the Dairy.

Few dairymen realize the sensitive nature they have to deal with in a well-bred dairy cow. At the recent Industrial exhibition there was a very striking example of the effect that unfamiliar surroundings, the constant stream of people, and the excessive heat had upon the quantity and quality of the milk. The loss in quantity was not as great as the loss in quality. Every cow in the milk test was away down in her per cent. of butter fat. It was not in only one milking, but during the whole of the time of the test. Another instance of how quickly and unexpectedly the per cent. of fat can be dropped was furnished by a cow at Brandon. She was entered in the milk test, and her owner, thinking it would be right, did not take her out on parade. He took away her companions, however, and she fretted until they came back, the result being that at the next test she was away down in her per cent. of butter fat. She would probably have given more had he taken her on parade. Could the cows on any farm be tested constantly, they would teach their owner many things about their sensitivity to disturbing influences. A writer in a recent number of *The Ploughman* gives the following experience along this line, and shows where the dollars and cents side of the question comes in:—

"The cost of noise in the dairy can be figured to a certainty; and the man who doubts this may gain some valuable information by making a few experiments on his own account. A neighbor of mine has been doing this and the result is decidedly startling. This man has a dairy of about twenty cows, mostly grade Jerseys. A quiet man by nature, his cows were accustomed to receive only the kindest treatment. A few years ago this neighbor bought a Babcock test for use in his own dairy.

"One day he directed the hired man to shut the cows in the yard, and to let the dog in with them. The hired man thought his employer must be going daft, but he obeyed instructions. The two men took sticks in their hands and went into the yard with the cows and began to shout, the dog barked and pandemonium reigned for a few minutes, although not a blow was struck nor a cow bitten. The herd was then brought into the barn and milked.

"The falling off in yield was quite noticeable, but the test when applied showed a loss of forty per cent. in butter fat on the basis of the week previous! Think of that, ye men who yourselves shout, kick, thump and bang your cows and permit the hired help to do the same.

"Suppose these cows gave at a milking 300 pounds of five per cent. milk when treated kindly. The loss in weight placed at a low figure must have been at least five per cent. or fifteen pounds. While the loss in butter fat, forty per cent. would bring the test down to three per cent.

"What does this really mean? At 20 cents per pound, my neighbor's 300 pounds of milk testing five per cent., would have been worth to him \$3. As a matter of fact it brought him only \$1.74, a loss on one milking of \$1.26. After such a result, who can wonder if this dairyman laid down some laws and insisted on their rigid enforcement?"

It is now proposed to manufacture a certain form of "casein" for making the finest, most nourishing and most palatable bread. It is to be made from the skim-milk of creameries. The utilization of the material in bread-making has been known for a long time, and has come to be designated as "bakers' cheese." It is doubtful if its manufacture will pay profits.

Preventing Mould in Cheese and Butter.

Complaint has lately been made that the butter coming from some of the Manitoba creameries has been mouldy. This will nearly always occur in creameries where the temperature of the storage chamber is lowered by the use of ice. The presence of a large amount of moisture seems to be conducive to the development of mould, and before long the outside of every tub is covered with it, and very frequently the mould will be found on the inside of the tubs also. It is almost the same in the curing room at the cheese factory. If there is a large percentage of moisture in the atmosphere there will soon be plenty of mould on the cheese. The mould discolors the outside of the cheese and the butter tubs and makes the article less saleable.

It has been found lately that spraying with a solution of formalin will prevent the development of mould. Formalin is a 40 per cent. solution of formaldehyde gas in water. It is sometimes called formal and formol. If a solution of 10 parts of formalin and 90 parts of water is sprayed over the cheese when they are put into the curing room, and over butter tubs when they go into cold storage, all mould will be kept down. One application has been found sufficient for three weeks, even in conditions under which cheese not sprayed were covered with mould in a few days. Prevention is better than cure. If the cheese or butter tubs become mouldy the mould can be killed by spraying with the formalin, but the stain of the mould will remain. The use of the formalin presents no difficulties. It can be procured for any one by the nearest druggist, and an ordinary atomizer, as sold by the druggists, will apply the spray. It would be well if the inside of every cheese and butter factory were thoroughly sprayed with formalin before the season's operations began. A large spray pump would be needed for this. Formalin is being used very successfully in a number of butter factories in the N. W. T. The parchment paper covering the butter boxes is sprayed with formalin, and thus all mould is kept down on the inside of the butter box. It is well worth every butter and cheesemaker trying.

Beef v. Butter.

Prof. T. L. Haecker, of the Minnesota Experiment Station, in a recent address, said: Does it cost as much to produce a pound of meat as it does a pound of butter? This question is asked at nearly every dairy meeting, and I am free to confess that I have never been able to answer that question intelligently, because I have never known a case where cows and steers had been fed similar rations under like conditions. I had a desire to do a little work in this line, so I made a special request to be allowed to step outside of my regular line and feed a few steers with my dairy cows; the request was generously granted, and four steers were turned over to me that had been kept during the summer on some forage plats in the agricultural division. They were about $2\frac{1}{2}$ years old, were only ordinary scrubs in a fair growing condition. I was instructed to feed the steers a beef ration, and the ration was prescribed—bran, corn and oil meal. I fed my cows the same ration exactly. I have not figured up what the average cost of the herd was, but it cost me about 3 cents to produce a pound of butter with the above ration. After carrying on the experiment for six weeks I found that the steers had made a

gain which had cost me 3.4 cents for each pound of beef, showing that there would not be one-fourth of a cent difference in the cost of production of a pound of beef and a pound of butter with this ration.

Dairy School Notes.

By Prof. E. H. Farrington, Madison, Wis.

The operation of the Wisconsin Dairy School creamery and pasteurizing department during the entire year affords an opportunity not only for continual experiments and "factory pupil" instruction, but for obtaining statistics and information in regard to many practical creamery and dairy matters. In reply to an inquiry regarding the loss from breakage and disappearance of glass bottles used for retailing milk and cream, we were able from our records to obtain some evidence on this question. Calculating our experience to a basis of 10,000 quarts per year, or about 30 quarts per day, we find that to retail this amount will require some 750 bottles. If the product is cream, customers will prefer pints rather than quarts. This is especially true in the summer, because the smaller quantity will be more likely to be used up before it sours. It will also be found that to do this amount of business, there will be about 150 bottles in circulation among customers and 100 will be in use at the dairy, either ready for sale or empty and on hand, to be used as needed.

At the end of the year there will be left about 250 of the 750 bottles and the 500 that have disappeared will probably go as follows: One-half of them the customers will pay for, one-third will be broken, and the remaining one-sixth will unaccountably disappear. If the bottles cost nine cents each, the bottle account loss per 10,000 quarts sold will amount to nearly \$25.

* * * * *

Our four years' experience in pasteurizing milk and cream for retail shows that it is absolutely useless to attempt to pasteurize milk that contains 0.2 per cent. or more of acid, or to use such milk for making pasteurized cream. Milk that tests over 0.2 per cent. acid contains a great number of spores, and these are not destroyed by the pasteurizing temperature; hence they develop and spoil the milk or cream, even though it has been pasteurized. If the milk is selected and only that which tests less than 0.2 per cent acid is used, the pasteurized product can easily be kept in a perfectly sweet condition for at least one week. This statement implies, of course, the proper attention to details in the pasteurizing process and keeping the products cool (50 deg. Fah.) until they are consumed.

* * * * *

A new illustrated circular describing our Dairy School has just been received from the printer, and is being distributed to those interested in this line of instruction. The school can accommodate 100 students, and applications are now being received for the next term, which begins Nov. 29th, and continues twelve weeks.

At the Birmingham, Eng., police court recently a dealer was fined \$5 and \$25 costs for selling butter containing boracic acid. The inspector prosecuting the case purchased half a pound of butter from the offender, which, when analyzed, was found to contain 70 grains of boracic acid. This is one instance of the many which have induced exporters of Canadian butter to insist upon butter-makers here not using preservatives of any kind.

An Expert's Opinion of the Northwest Creameries.

Editor Willson, of the Elgin Dairy Report, after addressing Farmers' Institute meetings in Manitoba, went as far west as Calgary and up to Edmonton. On his way he visited a number of creameries, and was well pleased with his trip. He gives an account of it in his paper. Of the Regina creamery he says:—"We found the creamery well fitted up and adapted for the work that was at hand, the business being conducted on the cream-gathering plan rather than the separator system. The fact that so many hand separators had been introduced and sold to the farmers during the last two or three years was further evidence to us that the cream-gathering hand separator system was and is to-day the best adapted not only for the people of the Territories, but for all dairying sections. The cream was gathered two or three times a week and carried for a distance of 10 to 30 miles, and even further, before delivery to the creamery. This condition of the cream requires very great skill on the part of the butter-maker to produce as good an article as was shown us by Mr. Howey, and we desire in this connection to remark that the government has succeeded in procuring butter-makers in all the factories that we visited so far, that are wide awake, progressive and intelligent workmen, and are doing as well as could be expected with the raw products they had to handle."

Speaking of the Wetaskiwin creamery, he says: "The next morning we visited the creamery, which is also under the control of the Dominion Government, and which pays the farmers 10 cents per pound each month for their butter, and at the close of the season pays the balance after the goods are sold, as they place some considerable portion of the butter in cold storage, and ship other portions not only to England, but also to Japan."

The day that he passed up the line from Calgary to Edmonton was shipping day for the dairy products all along the line. The railway company furnish refrigerator cars for taking up dairy products from Edmonton to Calgary. The shipments that were made from the creameries were in boxes entirely, the boxes being covered with sacking to prevent them from soiling and helping to keep them cool during transit where they were exposed to heat. An average week's shipment of butter from these factories is as follows:

Factory.	Output.	Patrons.
Edmonton	1,200	41
Wetaskiwin	1,400	58
Red Deer	2,000	55
Innisfail	3,100	75
Calgary	1,650	45
Maple Creek	700	15

There are some skim stations in connection with the factories along this line that furnish cream in addition to these figures.

At the Innisfail creamery he "found practically nearly all of the product was from whole milk. An Alexandra separator of the largest capacity, 3,000 pounds per hour, was in use. The butter-maker said that he had tried nearly all of the other makes, but he found the Alexandra the best of them all, taking everything into consideration. The output at this factory is something like three or four thousand pounds of butter per week. They are also putting up butter in tins for the Japan trade, as well as in boxes for both the English and the Coast trade. The tin boxes are made so that by means of a peculiarly adapted machine, the covers are put on absolutely air tight and then with

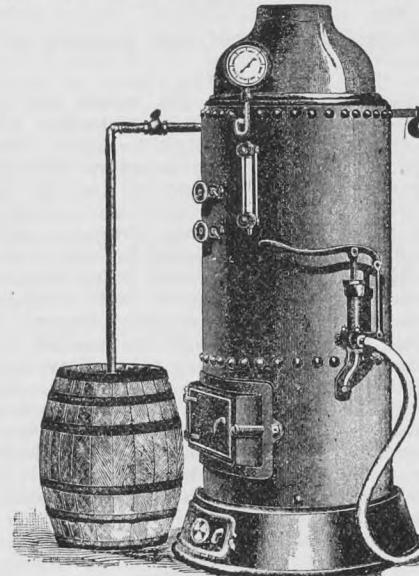
the key attached to them they can be opened without difficulty, making them a very desirable package for exporting butter. The cost of putting up butter in these tins, taking both cost of tins, the labor and the cases, amounts to between 3c. and 4c. a pound, so that they must secure a much better price than when the butter is put up in ordinary packages of wood."

Of South Edmonton creamery he says: "The visit to the creamery in the evening showed us that the arrangements for handling the product there were very good, indeed. The cream was unloaded into the vats, from which it was, when ripened, run into the churn, which was situated handy both to the vat and the churn. The boiler and engine equipment were in good shape for doing the work easily and not at a large expense for fuel. The drainage was most excellent, because of the fact that it was situated immediately upon the bank of the river."

On Mr. Willson's return to Calgary, he visited the creamery, and of it he says:—"Next morning, in connection with Mr. Mr. Marker, we visited the creamery, at which was the general storage warehouse for all of the products of the creameries

on the C. & E., and on the eastern division as far as Whitewood. They had received several thousand pounds of butter the day before, and the temperature was a little above the normal, but by the system of refrigeration adopted in this as well as other government creameries in the territory visited, they were enabled to keep a temperature close to the freezing point of 32 to 34 degrees, without a very large use of ice. We found the superintendent of the creamery and his assistants at work taking care of the cream received the day before over the railway and by wagons, and found all of the appointments in connection with the creamery in good condition. If we may be allowed a criticism in regard to the whole output of the factories in that district, it is that they are being held beyond their best period. Some of the May and June butter is yet on hand, and according to the generally accepted theory of the dealers, it has deteriorated to such a point that it would be worth one or two cents less per pound in the market than when fresh. But with this, as with other creameries visited during our trip through the country, we were agreeably surprised as to the quality of the goods turned out, and must commend

LISTER'S STEAM FEED BOILER



Nature is blind and performs her functions without regard to human exigencies. Guided by human intelligence—which is farming—she will modify her processes to suit our convenience. For example, in the summer months she lavishes the products of the dairy upon us till we are encumbered with the profusion. Anon, there is a dearth. Do not, therefore, be blind leaders of the blind, but put nature on the right track and you can have as much butter in winter, when it is worth something, as in summer, when it is not saleable at paying prices. To do so every cow-keeper should have a Steam Feed Cooker, which renders rough, dry fodder palatable and succulent, thereby increasing its milk-producing qualities fifty per cent. Then do not produce milk at extra cost, to throw the butter fat to the pigs. Use THE ALEXANDRA CREAM SEPARATOR, which recovers sufficient extra fat to pay the purchase price in one season, and will, with good care, last a matter of ten years. The demand for The Alexandra is ever increasing, because it is the best hand machine for the farmer with 8 to 20 cows. For larger herds we recommend THE MELOTE, for its large capacity, running up to 85 gallons per hour), the ease with which it can be turned by hand and because it is the cleanest skimmer of all disc machines.

Write for particulars to

R. A. LISTER & CO., LIMITED,

232 & 234 KING ST., WINNIPEG.

(AND 18 ST. MAURICE ST., MONTREAL.)

When buying why not get the best?

MIKADO CREAM SEPARATORS.



Many people say, "Oh, it's getting late in the season, and although I would like to have a Separator, I will wait till next year." Now, this is not good business, as you are throwing away at least twenty-five per cent. of your cream all fall and winter, just at the time when your butter will bring the highest price, and during the season, when of all others, your separator should be doing its best work.

If you want a cream separator, don't delay getting one, but don't get one, until you have examined the "MIKADO," easiest running, cleanest skimming, and all washed up and put away ready for next time in three minutes.

We shall be glad to send testimonials showing what the "Mikado" has done this year. One agent reports—"I have sold fifteen, and if you want fifteen testimonials, I can get them for you." As regards prices and terms, we can interest you.

MANITOBA CREAM SEPARATOR AND SUPPLY CO.

147 Bannatyne St., WINNIPEG.

the butter-makers' skill in handling the raw product so successfully."

At the time of Mr. Willson's visit at Calgary, Mr. Macdonald, manager of the creamery, received an order for 5,000 lbs. of butter from Japan, to be put up in one to five-pound tins, at a price which would net the factory 23c to 24c per lb., after deducting the extra cost of tins, labor and freight. Mr. Macdonald believes that trade with Japan will be largely increased, as this order is the result of a small trial shipment. He was very well pleased with the outlook for business in that direction.

On his return trip he stopped at Moose Jaw. He "visited the creamery, and found it in good shape, with all the conveniences that could be desired in an up-to-date affair. The cream that was being received was of a very excellent quality, considering the distance it had to be carried and the time it had to be held by the farmers. The butter which we examined was of a very excellent quality and would compare favorably with much of the butter made from whole milk rather than gathered cream. The equipments of the creamery were in good condition, and everything connected with the establishment showed thorough care and the good business ability of the superintendent. The butter-makers were well up in their work, and were handling the butter in most excellent shape. The government may well feel proud of the development of the creamery and dairy industry at that point, and we found active, enthusiastic members of the creamery company who were doing all they could to make the creamery business a success, both for the benefit of the town and the farmers in the immediate vicinity."

"We had the pleasure of a drive over to what is known as the 'Hog Ranch,' owned by Mr. Holt. We found there an establishment somewhat unique in its plan and scope, but one that we believe will be exceedingly profitable from the fact that Mr. Holt has utilized the waste products of the creamery and crops that he could raise there, turning them into a valuable product, for which he has an immediate home demand at good prices. It is situated in a sort of basin formed by hills along the lines of a small stream, and with the convenience for slaughtering and dressing the hogs, we see no reason why other establishments of a similar kind would not be profitable in connection with creameries."

Mr. Willson's next visit was at Indian Head. He found that "Mr. Taylor, the superintendent of the creamery, was not as active and busy as he would like to be, the supply of cream being limited. The creamery building was furnished by Lord Brassey, and well-located in connection with the town, and everything about it in most excellent shape, in fact, one of the best creamery buildings we saw on our trip. The splendid country north and south of the railway being practically all in wheat, the crop being generally fair, the dairy industry has not become a prominent feature of agriculture in that section, although there are a few enterprising dairymen who are beginning to see that it is not best to place all of their confidence in a single crop; in fact, the night we left there, a gentleman, who has something like 500 acres in wheat, was extremely anxious in regard to the condition of the weather, as frost was liable to be in evidence during the evening, and in fact it did occur, but possibly not sufficient to injure the growing wheat, although there were many places where the vegetables were badly cut by the frost, as we noticed the next morning. It is only a question of time when about Indian Head there will be a larger development of diversified farming than now."

American Butter Exports.

Secretary Wilson, of the U. S. Department of Agriculture, is making great efforts to develop the export of butter. From the returns for the year ending June 30, 1898, we find that the exports of butter amounted to 25,204,733 pounds, as against 31,427,297 pounds for the previous year. This shows a sharp decline. Secretary Wilson's efforts are clearly needed. But he will have to send forward good butter or the American butter trade with Great Britain will all go to smash, as did their trade in cheese when nothing but filled cheese was sent forward. With their imitation butter, "process butter," and butter dosed with preservalin and formalin, he will have a hard time in increasing the butter export. If he could compel all the butter factories to make straight goods and all dairy butter to be marketed as dairy butter, he would take a long step towards increasing the export of butter.

Process Butter.

What is known as "process butter" is made by working over the assortments of dairy butter sent in from the country stores, and treating it in such a way that a fairly presentable article is produced. The idea of thus converting a large amount of otherwise useless stuff into a useful article is a good one; but it presents too many opportunities to unscrupulous men to add what they should not. Such grades, too, are coming into sharp competition with good butter at a few cents a pound less, and are being pushed by commission men because there is more money for them in handling it.

Lime Water as a Disinfectant.

The value of lime water as a purifier, a disinfectant, and a germicide is not generally known, says R. Crowe, assistant dairy expert in Victoria, Australia. Its adaptability for use in dairying places it far ahead of other things on that line. The chief points of advantage are its cheapness, ease of application, efficiency, and harmlessness; for it is not poisonous, as many disinfectants are. No remedy is known that will permanently sweeten a badly contaminated churn which should be destroyed. To prevent a churn from going off, it should be filled periodically, say once a week, right up to the top with lime water, and let stand over night. This water may be used again to wash walls, floors, etc.

To make lime water, put a quantity of unslacked lime into a tank or barrel. Fill up with water, then stir well. After settling, the water will be clear, with a scum (carbonate of lime) on the surface. Use the clear water without disturbing the lime in the bottom. When emptied fill up again with water and stir, then leave to settle and so on. The quantity of lime may serve for many fillings of the vessel with water. As long as the carbonate of lime appears on the surface after settling it may be considered of sufficient strength. Every factory should have a tank in a high position with taps laid on to places required. Lime water should be used by all milk suppliers to rinse buckets and milk cans after cleaning. The cause of milk turning sour in cans quickly is often on account of the bacterial starter left in the vessels used. A simple experiment will demonstrate this to be true. Rinse one can, after cleaning, with lime water, and after leaving the cover on for some time compare with another which has not been rinsed with lime water, leaving the cover on this also. Again, if we take two

cans, one cleaned in the former way and one in the latter, it will be found that milk will keep much better in the one treated with lime than in the other.

The drink bill of Canada is estimated at \$40,000,000, equal to twice the value of all the cheese and butter exported by the country.

Dairy cows should be well looked after from now out. Now is the time that it is so easy for the cows to shrink in their milk yield. See that they have plenty of fresh water, plenty of good grass or fodder and shelter at night when necessary.

The Emerson creamery closed down for want of ice, the second week of August, after a very short, though successful, season. The intention is to start a little earlier in the season next year. The Neepawa creamery closed for the season at the same time, after a run of about three months and an output of less than 15,000 pounds.

A condensed milk factory has been started at Norwich, Ont., practically controlled by one family—the Stovers—who supply all the milk. It has been in operation now some three or four months, and being under the control of one family connection, absolute cleanliness and the greatest possible uniformity of product should be obtained. W. I. Spettigew is the manager.

To Keep Butter Cool.—Get a common flower pot and large saucer, fill the saucer half full of water and set the dish of butter upon it. Then cover butter and saucer with flower pot by turning the flower pot. Close the hole in the bottom of the flower pot with a cork, then dash water over the flower pot every time it becomes dry. If set in an airy place, a small dish of butter for the table can be kept cool and firm without ice.

C. C. Macdonald, dairy commissioner for Manitoba, has gone east on a trip of inspection. He intends visiting creameries where cold storage appliances have been introduced, with the object of studying their working. Storage rooms, cooled with ice, are always damp and apt to cause mould to appear. He will also inspect the working of a small ammonia freezing plant, and, if found suitable, it may be introduced into Manitoba. He will visit a number of Canadian factories and towns. On his return trip he will visit leading factories in Wisconsin and Illinois. At Elgin, Ill., he will gather particulars regarding the dairy board of trade, with a view to forming a similar organization in Manitoba.

Speaking of ingenuity and some of its products, I remember once of seeing a long-headed farmer rig up a very cheap horsepower for light work out of an old-fashioned worn-out mower. He took the tongue off, took off the pitman wheel and had the end of the shaft which drove it made square so as to receive the knuckle of an ordinary spindle, turned the machine on its side, braced the body of it well, fastened a couple of arms across the driving wheel, which was turned up, and used it. If the lower driving wheel is removed and a few scantlings are fastened together so as to form a foundation and brace the body of the machine, so much the better. If the man who superintends the transition from mower to horsepower is at all handy, a very good machine for one-horse work may be the outcome. If he is a botch, his construction will likely be the same.



Southern Alberta.

How far cultivation can be made profitable in the big country known as Southern Alberta is as yet very much a matter of speculation. The limited and uncertain character of the rainfall in the most likely sections may be modified by judicious irrigation, but this last spring the natural rainfall has made irrigation almost superfluous, and at some points on the line to Macleod there was apparently more moisture than was desirable. It has been an off year for irrigation, but there is evidence enough that for the production of paying crops, of Brome grass especially, irrigation can be employed to very great advantage. The natural grasses, except on a few swampy locations, are of the most nutritious quality, and by proper management beef cattle can be turned off the ranges of a quality as fit for long-distance transport as if fed on the best corn. Water is pretty abundant, and the climate as a rule very favorable. The losses of live stock that have occasionally been made are now understood to be to a large extent avoidable. One ton of hay for each head of stock kept is an ample safeguard against chance storms, and by generous treatment of calves and young incalf cows there is little doubt that stock-keeping can be made a steadily successful industry that will expand to very ample proportions, as compared with all we now see.

In the districts where water is scarce the government is very careful to prevent any one rancher, by purchase or otherwise, from getting exclusive possession of the sources of supply. The business is now pretty thoroughly understood, and amateur ranching, with its folly, self-complacent ignorance, and consequent losses pretty much a thing of the past. The men now in it have experience, well-graduated stock and capacity enough to manage to proper advantage. Even without irrigation, those familiar with ranching as a practical business know that in some sections the pasture is abundant, but they also know that for all cattle intended for the European market it takes the true buffalo grass to firm up the flesh made on other pastures. Grass that has been frosted is another thing to be studied. Western pasture sun cured is as good feed in the dead of winter as in August; but if of rank growth as in a year like this, it may be frozen before it has time to ripen, and stock dependent on it gets poor accordingly. A short time back hundreds of young cattle brought from the east late in the fall, too late for proper acclimation, became almost a dead loss to their importers. Last spring, however, the same class of cattle were brought from points as far away as Nova Scotia, and will winter as well as the native born stock.

For 50 miles out from Calgary I saw lots of well-bred stock, mostly of Short-horn grade, and nearly all in prime flesh, but not likely to be fit for export till more firmly fed on the drier grass. Clareholm, 100 miles out, is the point of shipment for much of the stock between that point and the boundary. The bulk of the cattle I saw were on the northern half of the Macleod branch. I am told there is much greater risk in wintering cattle near the mountains than on the more open and barer country further east. The heavier

snowfall near the mountains has much less chance of getting melted by the chinook winds.

I only saw one flock of sheep between Moose Jaw and Macleod, and comparatively few horses. I presume that the presence of any particular variety of stock is evidence that it has been found the most suitable. If this supposition is correct, the Shorthorn grade is best, and the Hereford second best. Horses are all right in good hands, and sheep are suited only to some localities.

Hay, some of it of fine short quality, some from more swampy land, some the product of irrigation, was being plentifully made, and old timers, such as Mr. Stimson, of High River, count on being able to bring through calves and young cows on this as easily as can be done on any Manitoba farm.

R. W. M.

Gleanings from the Experimental Farm.

On the 16th of August I took a look over the Experimental Farm at Brandon to pick up a few practical notes. Probably there is no better time to visit the farm than the first half of August, as at that particular season, although the crops have mostly not been cut, still everything is in such a stage of development as to give one a pretty good idea of how it is going to turn out. Great credit is due those in charge that such full information is given in the official reports and in other way from time to time, but I could not help thinking that the farmers around Brandon, who can take a run through the farm at any time, must enjoy a great many advantages in being able to see with their own eyes any particular experiment which especially interests them. At the time of my visit everything was looking very thrifty, and grain-cutting was getting nicely under way. The crops this year have been generally pretty fair, and with no smut perceptible in any of the grain.

In wheat, as usual, the Red Fife is the most satisfactory variety grown, and it seems doubtful if any of the new kinds are likely soon to replace it. Stanley, a hybrid, is probably the next best on test. It is a very nice wheat, and fully a week earlier than the Red Fife, but is a lighter crop.

Just about as even and clean a plot of wheat as was on the farm was one growing after a crop of peas. Among the tests for different methods of cultivation the crop from fall plowed land was the lightest and earliest.

Out of the sixty-five varieties of oats grown the Banner is again the best. In the last five years they have averaged 85 bushels to the acre on summer fallow. A number of the oats were tangled, but the Banner has a very good straw, stands up pretty well and is very little troubled with rust. A number of the plots of oats stood fully five feet in height.

Asked if he thought peas could be made a satisfactory crop for Manitoba, Mr. Bedford said that his experiments led him to believe that they could. They had always done well and given good satisfaction on the farm, and, indeed, this year the pea plots compare very favorably with those of the other grains. They are not a hard crop on the land, but seem to do best on a fairly heavy soil. Of course, the difficulty of harvesting peas has been something which has always militated against the more universal growing of them in Manitoba, but, by mixing them with, say, one-third the quantity of oats, they can generally be cut with the binder. The Prince Albert is about the best pea on

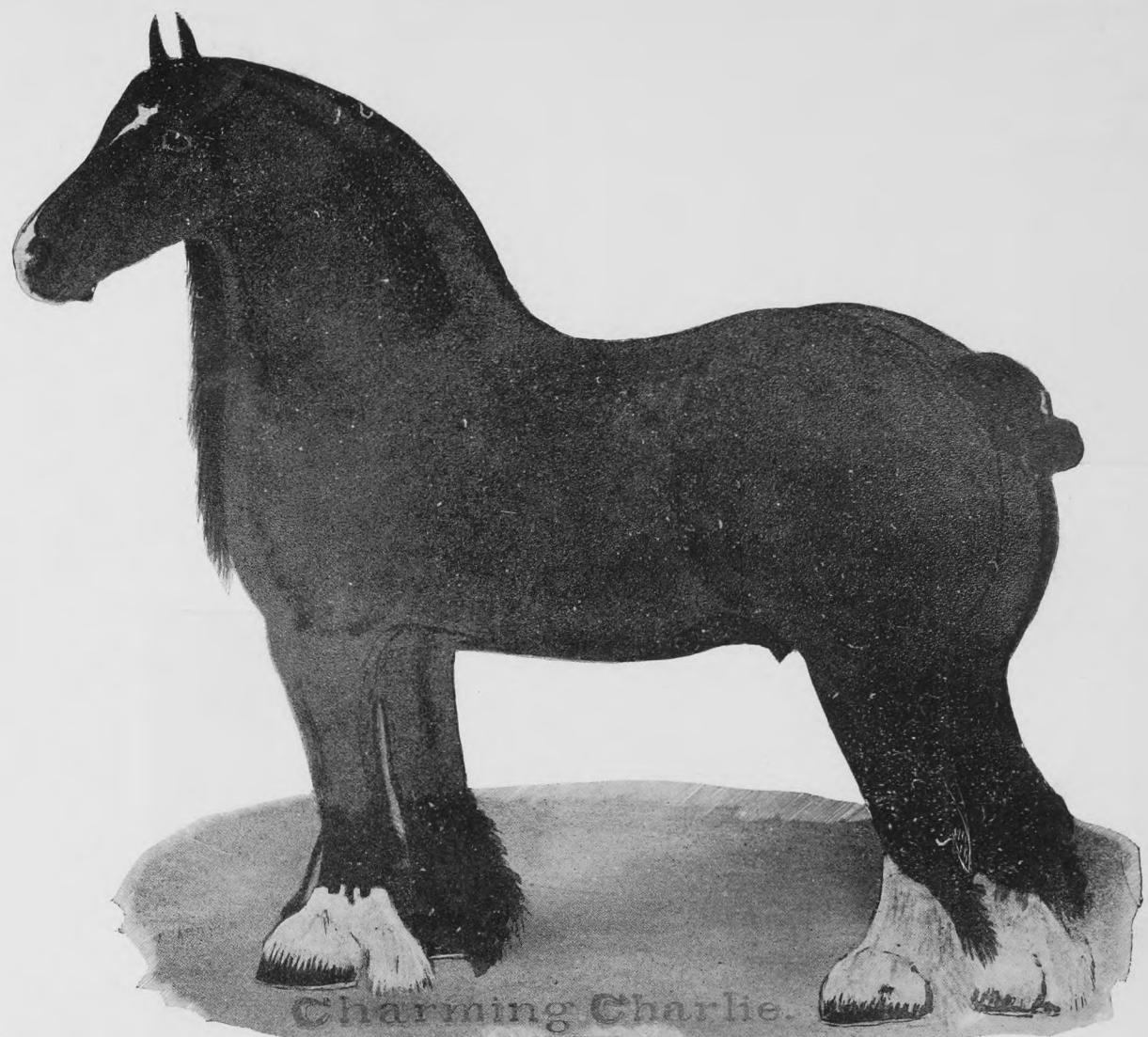
test; some of the hybrids are also turning out well.

Flax is a very fair crop, and some was being tested for fibre, while the rest was on test for yield. It does very well here, but the grower has to be extremely careful in getting new seed lest he get weed seeds, as it is nearly impossible to take out, or even detect, many of the foreign seeds from the flax. In one lot of seed sent the farm there has been found to have been no less than four different kinds of mustard.

Coming to the grass plots, I was rather surprised to see the thriftiness of the clover sod. Experiment has proved, however, that it is no use to sow clover with a grain crop, as in Ontario. It does not amount to anything. It has to have a chance by itself the first year. This, of course, in turn means that only perfectly clean land should be sown to clover, as it has to be covered so lightly that harrowing when it is coming up (as is sometimes done to keep down the weeds in wheat) would kill it out. The varieties which have proven the best are the common red and Alsike. Last year the red clover gave a yield of two and a half tons to the acre. There has been no trouble here about winter-killing. The White Dutch has a thickly matted sod and looks very much at home. It makes magnificent sheep pasture and is a splendid grass to sow in lanes and on roadsides, as its thick turf helps to keep down all kinds of weeds. But as a general all-round kind of grass the Brome seems to be the thing. It is a very heavy cropper, makes good hay, and continues to grow well throughout the season. I saw some plots of Japanese Millet, about which, however, I made no enquiries, but from the extremely rapid growth I should say that they would cut at least five or six tons to the acre. What sort of feed it will make is another question. It will be worth while consulting the farm reports to see what is said of this.

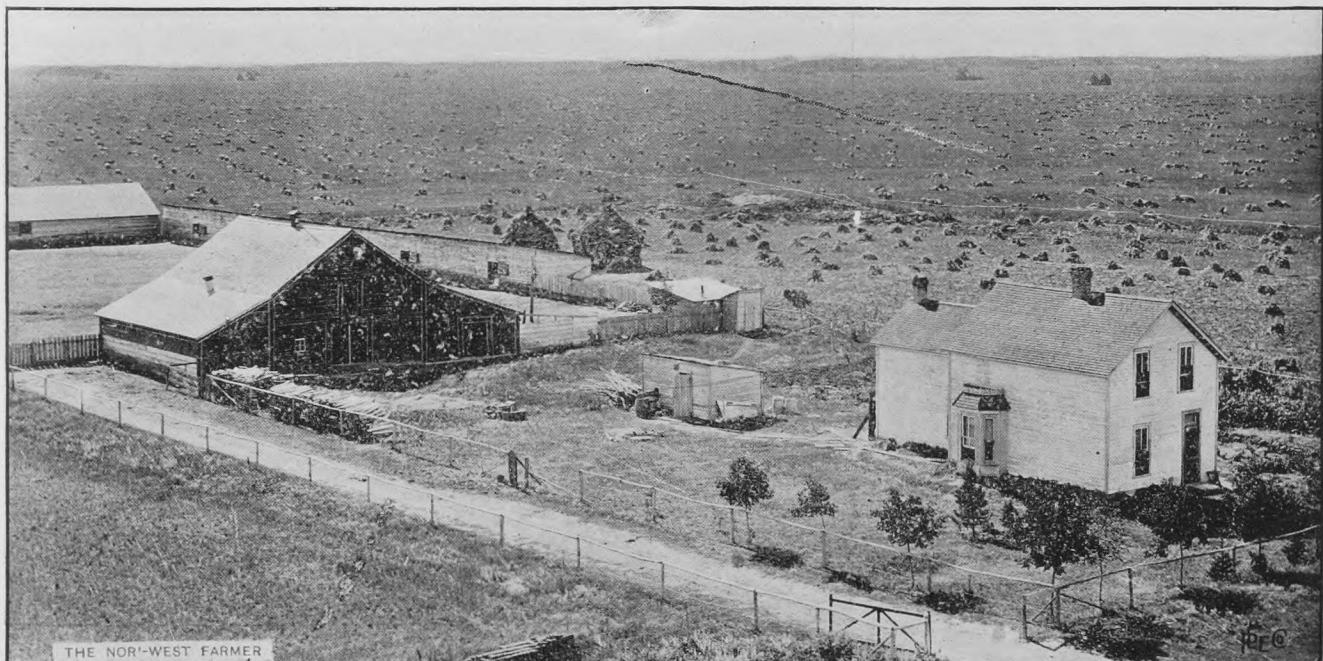
For fodder purposes corn seems to be likely to come in for more general growing. There are twenty-six varieties grown here, and there was scarcely any other crop which looked to be more at home and thrifty than the corn crop. At the time of my visit it stood over six feet in height, but had the peculiarity of being almost the only crop which was the lightest around the edge of the plots. The winds and exposure seem to retard the growth of the outside plants, and it should be grown if possible in a solid block. There has always been a fear among the farmers of this province that this very valuable crop is one which cannot profitably be cultivated in our climate, but if the success which has attended the experiments may be taken as a criterion of the general thriftiness and hardiness of the plant, there seems to be no reason why it should not be considered a success. The same impression prevailed but a very few years ago in many parts of Ontario where now almost every farmer has his plot of corn. Of course frost will play havoc with it, but those who have tried corn-growing have not as a rule complained a great deal about frost. Mr. Bedford says that one year the whole crop was frozen to the roots, but as an experiment it was cut and put away with inter-layers of straw, and it made fairly good feed for the cattle. North Dakota Yellow is the favorite variety on test, and was just coming into silk. It is fairly early, and has an abundance of broad leaves and thick, bushy stalks, though not so tall as some of the other kinds. Early Butler and Canada White Flint are also very good growthy plants.

It was interesting to notice the differences in the potato patch. Some of them had only spindly-looking vines, while some



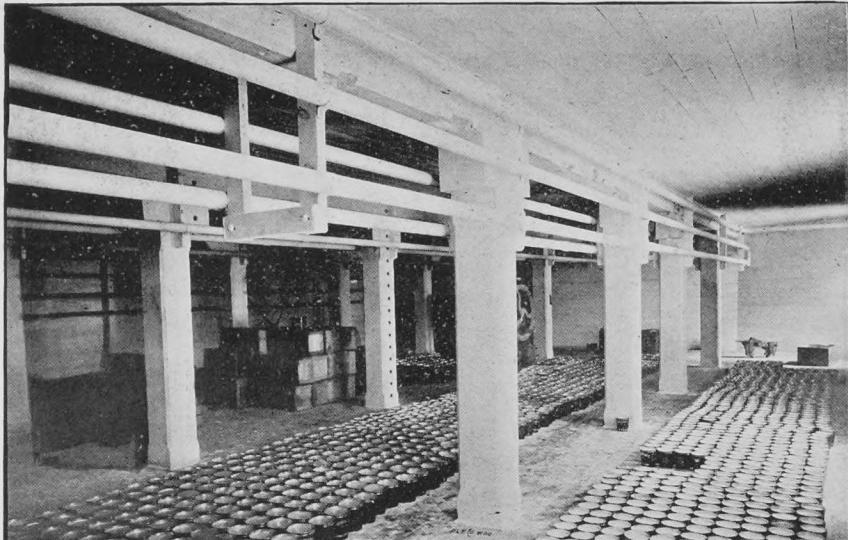
Prize-Winning Clydesdale Stallion, Charming Charlie, the property of Allan Struthers, Elkhorn, Man.

Charming Charlie (4917), a beautiful brown stallion, 17 hands high, was foaled in May, 1883, and bred by Joseph Cruickshank, Auchreddie, Scotland. His sire is Royal Charlie (122) and dam, Gip of Auchreddie (2103). He gained the first prize at the Ythanside Farmers' Club Show in August, 1885, as the best two-year-old on the ground, and was chosen by deputation from the Arran Farmers' Society, at the Stallion Show in Glasgow, in 1886, and awarded their premium to travel in the districts embraced by that Society. He was chosen by the Kincardineshire Farmers' Society to travel in their district along with Pride of the Clans (4662). Charming Charlie secured second prize at Aberdeen Stallion Show in 1887. He was then imported and was shown in London, Ont., and secured the first prize. He also won first place at all the local fairs of both 1888 and 1889. Since coming to Manitoba he has won first and diploma at Brandon in 1890, 1891, 1892, 1893, 1894, and 1897. At the Douglas Spring Show, 1893, he was first; first at Winnipeg in 1894, and 1st at Birtle Spring Show in 1898. As a stock-getter he has been most successful, as hundreds of horses in the Carberry, Douglas and Brandon districts testify. His get have been in strong evidence in the show rings. This horse has had a big season this year and will stand at Virden during the fall months.



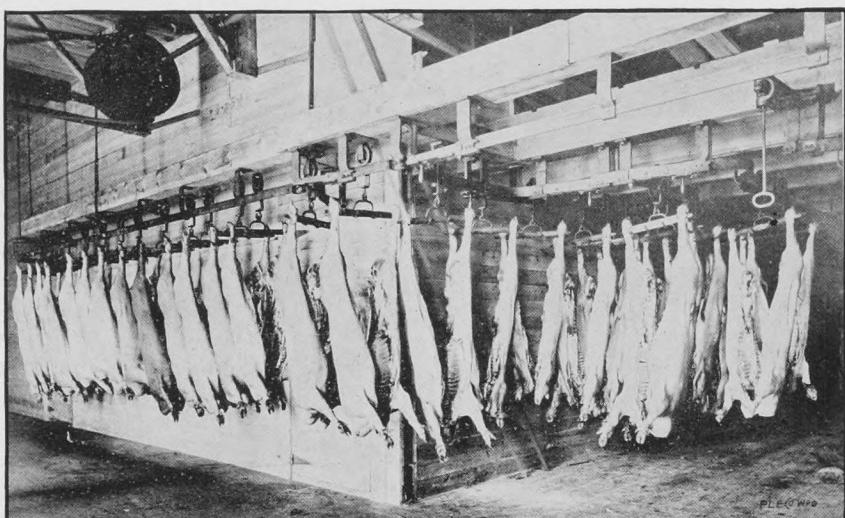
THE NORTHERN FARMER

Ready for the Thresher, on the Farm of J. G. Barron, Carberry, Man.



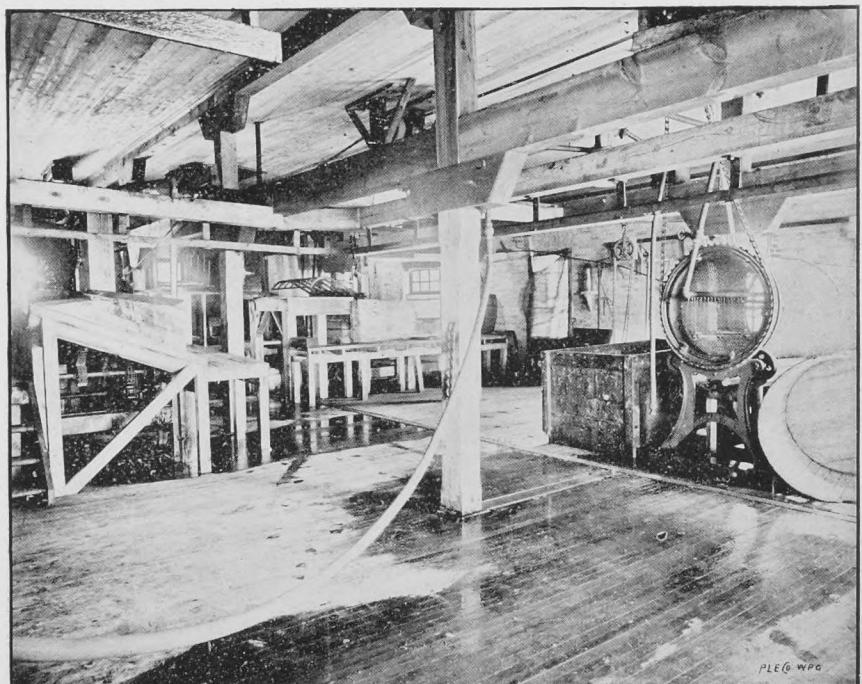
Part of the Large Cold Storage Room for Dairy Products at the J. Y. Griffin & Co's. Pork Packing Establishment, Winnipeg.

The pipes seen overhead in the room are connected with the ice machine, and by means of them the room is kept at any desired temperature. The pipes show a heavy coating of ice.



Dressed Carcasses, Ready for Cutting-up.

Hanging outside one of the chilling rooms in the J. Y. Griffin & Co.'s Pork Packing establishment, Winnipeg



A Corner in the Killing Room of the J. Y. Griffin & Co.'s Pork Packing Establishment, Winnipeg.

others were so profuse as to be almost like currant bushes. Taken on the whole, however, the potato crop was doing very well. Muskoka is one of the best varieties; it is early and a very good cropper, with nice tubers. There have always been a few bugs on the plots on the farm, but they have not taken hold and wrought any particular havoc, as in some other countries. They are a pest, nevertheless, whose extended acquaintance need not be cultivated.

The crops of turnips, mangolds and carrots were all looking well. They have been able here to raise 800 bushels of carrots and 1,000 to 1,200 bushels of turnips and mangolds to the acre. Mangolds seem to be a more profitable crop than turnips to raise. They are better feed, no more trouble to cultivate, and rather surer to be a success, as the dry weather is very hard on the turnip crop. Although there are very little perceptible differences in many of the varieties, the Gate Post and Yellow Intermediate seemed to be among the best. The former has a long root, and many of the latter were four inches through in the middle of August. For carrots it has been found necessary to plow deep. Tests have proven that about three times as many roots may be grown on deep as on shallow plowing, so the plow now goes in to the beam on the carrot patch.

In fruit tests there is a little more feeling in the dark as yet. Of course, many of the smaller fruits are such a success as to establish beyond a doubt their permanence. The raspberry was rather late this year, and was just ripening in the middle of August. Many of the tenderer varieties got frozen down last winter. Reider and Golden Queen have proven to be the hardest sorts of red, and Hilborn the best blackcap.

The larger fruits have been pretty well cornered down. It seems as though all the standard apples, tame plums and ordinary tame cherries may as well forever be relegated to the impossible. Consequently the anxiety at present is to get something perfectly hardy, and then, by crossing and cultivating, improve upon it so as to get whatever quality it may be possible to secure. The wild Siberian crab has been the only thing in the apple line which has at that altitude proven to be perfectly hardy. At present experiments are being carried on in Ontario by crossing it with some of the hardy apples to try to secure a hardy plant and a better fruit. But there seems to be more hope for the plum—at least Mr. Bedford and Mr. Brown, the gardener, are both somewhat sanguine as to the prospects. The tame plum and its seedlings have fallen through, but seedlings from the native plum have proven to be very hardy and thrifty. The question now is as to fruit. They have a plot of five-year old trees which are looking well, and a few of them this year have a good crop of fruit, which, however, was rather too green to judge of its probable size or quality. Of course, if we cannot grow peaches, any experiments which seem likely to produce an edible and reasonably satisfactory variety of plum should be encouraged. A kind of ground cherry was fruiting very nicely, but I did not get enough information about it to give any particulars.

The beautiful rows of maples, shrubs and hedges, which were evincing such perfect hardiness, set me to thinking how nicely any one may have his place set off—even in Manitoba. But we are advancing step by step. The farmers are paying more attention to these matters, though some of us, we must admit, have been rather slow as yet. Example is a strong influence, however, and when one man in a neighborhood gets an attractive home-like place, the rest are likely to follow.



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Which Penetrates anything plowable, and draws 50 to 75 lbs. lighter than other plows doing the same work.

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A powerful lifting spring makes raising the plow out of

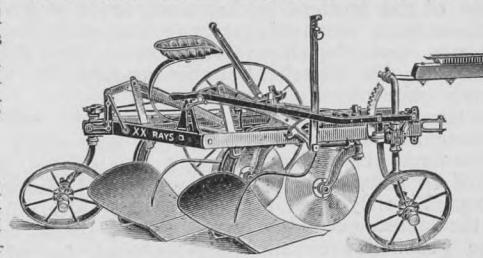
It is furnished with our patent SPRING CLEVIS, which eases the strain upon team and harness whenever the plow strikes an obstruction, and which gives a more even and therefore less fretting draft to the team at all times.

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the ground so easy that a 12 years old boy can easily operate it.

Fitted with our celebrated 'Garden City Clipper' bottoms they will scour in the most difficult soils.

A Look Through the Carberry Creamery.

As a finale to a trip among the prosperous farmers of the Big Plain, a Nor-west Farmer representative, having discussed creamery matters pro and con with patrons and others, called at and took a look through the place, and found Mr. H. Piggott, the butter-maker, busy, but still very ready to give us the freedom of the building and to answer the numerous questions with which we plied him. Not being inclined toward intrusiveness, we enquired as to whether or not the public were at liberty to go through the creamery. The reply was that visitors with clean feet were always welcome, and after he had noted that our pedal appendages were in condition to agree with the rules, we introduced and availed ourselves of the liberty to the fullest extent. We found everything about the place fresh, clean and sweet.

Having met a few farmers, who, as usual, were nursing one or two supposed grievances, we went to considerable pains to look through the tests and discuss with the maker some of the many little troubles with which every creamery man is so conversant, and an investigation of the tests and the accounts kept of cream supplied, convinced us that the man in charge not only perfectly understood his business but was giving to each patron all that any conscientious maker can, and even has, as a matter of fact, rather favored the patrons at the creamery's expense. We mean by this that on the whole the tests have proven to be a shade better than the bulk of cream supplied.

Dealing with this, while it is generally held that figures do not lie, still it is a

fact that to one who does not understand all the little intricacies of the business, the statistics of butter-making present many little seeming incongruities which are as plain as daylight to anyone who takes the trouble to look the matter to the bottom. Now, the tests always depend upon the closeness of the skimming or quantity of milk in cream. Still, some farmers, knowing that their neighbors' cream tests more than their own, forget that they make up in inches what they lose in test. While we are at the A B C of the matter let us explain further by way of illustration. We will say that a farmer has three inches of cream testing 100, and we pour into this three inches of skim milk, and we have precisely the same as the man across the way who does not skim so closely, and who has six inches, but who kicks because his test is only 50. Now, we think we have got the matter down so fine anyone who knows that three times one hundred gives the same result as six times fifty, will understand. Mr. Piggott expressed his desire to hear any complaints and iron out any seeming difficulties.

We might add that the creamery is operated by a joint stock company, and that the butter-maker and drawer are both salaried men. The cream brought in the day of our visit was in first-class shape, and the farmers certainly deserve commendation for sending in so good a sample. We were informed that this was only the usual condition. The output is about 520 lbs. per day, and is being mostly packed in 56, 28 and 14-lb. boxes.

The number of homestead entries made during 1897-8, up to August 1, is, 3,478 representing 556,480 acres, against 1,827, representing 292,320 acres, in 1895-6.

The Rocky Mountain Locust in Southern Manitoba.

Last fall a swarm of locusts was seen to come from the Turtle Mountains and alight upon the farm of John Scott, Deloraine. Mr. Scott recognized them as the much-dreaded Rocky Mountain locust and watched for their appearance in June, when it was expected that the eggs laid last fall would hatch. He was not disappointed; he found them and destroyed many of them by burning long rows of straw, into which the locusts had crept for protection. At the request of C. Young, M. P. P., Deloraine, the Provincial Minister of Agriculture got Dr. Jas. Fletcher, Botanist and Entomologist of the Central Experimental Farm, Ottawa, to visit the district in July. Dr. Fletcher found that the locusts were the true Rocky Mountain ones. Some of the farmers in the district thought these pests were only the common grasshopper, and therefore paid no attention to them. Dr. Fletcher found the young locusts quite plentiful in some places; but he also found that insect enemies were numerous, and that the locusts were being destroyed very rapidly by the young larvae of an ichneumon fly and by other parasites. This fly lays its eggs in the body of the locust, and when they hatch the young grubs live on the locust, finally killing it.

In August, Dr. Fletcher again visited the infested district. He was accompanied by Hugh McKellar, of the Department of Agriculture, and at whose invitation a representative of The Nor'-West Farmer joined the expedition. On arrival at the scene of the depredations of the locusts in July very few living specimens were found; but there were plenty of dead ones. This was on grass land, but they were plentiful on stubble land, particularly oat stubble. They have done no appreciable harm this year; in fact, one man thought they had done his crop of oats good by eating out the green second growth. But the trouble is that though not plentiful now, there are enough of them to lay sufficient eggs to make them a pest next year. The females begin depositing their eggs the last two weeks of August, and continue until the snow flies. It has been found that the eggs are laid only in stubble land of this year's crop. The female digs a hole and deposits the eggs in it, about 100 in a little sac, then covers it up. In the spring the eggs hatch, and the trouble begins.

Experiments in the United States show that if the eggs are plowed down four inches deep, they may hatch, but the young are so far down that it is impossible for them to reach the surface. Besides the mouth of the sac is turned down, and this makes it more difficult for them to get out. Dr. Fletcher's advice is that every acre of stubble should be plowed this fall. The farmers in this district are not in favor of fall plowing, but they should not let that stand in the way of destroying the eggs that they know are in the soil. It will be all right if all the stubble land is turned down before the middle of June. As all summer fallows should be turned down by this time, too, to make sure work, it will be wisdom to do some of the plowing this fall. If every farmer in the affected district would plow down all stubble land, it would check the trouble. We hope that it will be done.

A limited liability company has been formed to take over the business of Messrs. Garton, the highly successful breeders of hybrid wheats. Their work has already produced, by means of skilful cross-fertilization, several very valuable new varieties of grains and grasses, and is sure to do still further service along the same line.

By the Way.

Mentioning summer fallows calls to mind that while on this trip we saw summer fallows that had been worked with a disc harrow to kill weeds, but the weeds had grown too big and strong to be killed in that way. The soil could have been stirred with an ordinary harrow to better advantage. Weeds that have got the start of the common harrow cannot be killed with a disc harrow. A good flat-footed cultivator would be the correct thing, but many such cultivators will not clean in certain classes of our soil. There would be a good sale for a cultivator that will clean in any soil. John Scott, on whose farm the locusts were first found, has a clean summer fallow. His stock pasture on his fallow, and to induce them to go all over the field he has sown strips of grain (wheat and oats) at intervals across the field. The result is that he has a clean field and the soil thoroughly packed by the stock tramping over it.

On our way south from Deloraine we noticed that George Perry is putting up a new barn. It is on a stone wall, and quite a large size. A peculiarity of this barn, and it seems to be general in the neighborhood, for all the new barns are built the same way, is that the roof is hipped at the ends. We infer the idea is that it presents less resistance to the wind, but it also prevents the successful use of a hay fork in the barn, if it should ever be wanted. Mr. Uri's new barn, 40x56, is giving him good satisfaction. John Renton is putting up a new barn, 40x60 ft, with stone basement. His son is putting up one of the same size also. Both barns are sided with tin siding and tin roofs. A turn over his garden showed things to be in fine order. Black currants and raspberries have done well with him. He has a number of seedling plum trees from Minnesota that are growing nicely. Mr. Teskey, opposite Mr. Perry's, south of Deloraine, has his garden laid out in the way that every farmer should have it. Everything is set out in long rows, so that the land can be kept clean with the horse cultivator, and the hand work reduced to as low an amount as possible.

A day on the Morden plains showed us some very fine wheat fields. Though not so heavy as they have been some years, the yield promises to be very much ahead of last year. To the north George Cram has a large field of wheat on timothy sod that promises 40 bushels per acre. Farther north we find that James Topley has sown his summer fallow with oats for pasture for his stock and also to prevent his soil drifting. He, too, had a fine piece of wheat as level as a floor.

A trip to the north of Morden would not be complete without a view of the grounds of A. P. Stevenson, Nelson. Here everything was in fine condition. His wheat crop is going to be a good one. His cherries, raspberries, currants, gooseberries and strawberries have done well this year. His crab trees are loaded and have to be propped. On one limb, 8 inches long, we counted 22 crabs. He has a number of apples fruiting for the first time, and he is anxious to see what the quality will be like when ripe. A number of improved native Minnesota hardy plums are fruiting, and he will soon know what they are like.

To the south of Morden the crops are equally as good. Mr. Bedford, of Glen-cross, has 90 acres of a promising new wheat, the Okanagan Velvet Chaff, side



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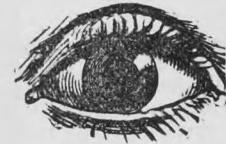
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by side with the Red Fife. He has put up an exceedingly good lot of hay. A quarter section was sold in the Mennonite reserve this spring for \$4,000.

On August 24th the writer visited the gardens of J. Noonan, a couple of miles west of Brandon, and was surprised to see the almost phenomenal proportions to which he had brought so many different kinds of vegetables. Mr. Noonan is an Irishman, and was a gardener on the "ould sod" before he came to Manitoba, but I could not help wondering if the greenness proverbial to his native isle exceeded that of his plot at Brandon. It would be worth while for some odd ones of the people in that district to drop in just to see something of the possible in vegetable growing. Of course, he has unusual natural advantages which we must in fairness mention. His plot is a very rich vegetable mould, but mixed with sufficient sand to make it sharp enough. Then a convenient slough to the north may be drained to provide a supply of water at any time. Now, with these favorable conditions as a basis, and a man who understands his business to manipulate affairs, the results are not so much more after all than we could expect. The only thing which I saw growing under glass was some cucumbers. I measured one specimen of the fruit and found it to be 20½ inches in length. He had some cabbages which he had started early under glass, but which had since grown in the open, and which measured four feet across the leaves, with a circumference of 3 feet 8 inches around the solid head. In fact, a few years ago he took first prize at Toronto for cabbages and tomatoes. He had in his garden some samples of sugar beets as large as 16 inches in circumference. He has not done very much here in the growing of small fruits, and is on the lookout for the very best hardy gooseberry obtainable. One difficulty which Mr. Noonan finds (and which others find even more than he does) is to get pure seed and perfectly reliable information. The seedsmen of the east and south know so very little about this country that their recommendation as to whether anything is suitable or not is of very little practical value, and we are learning all the time that we must look largely to ourselves for supplies of seeds and plants. The local men

who may be depended upon deserve all the patronage they receive, and more, too,

finds plenty to corral. Surely the fools are not all dead yet.

Human nature does not change much. The people of to-day keep right along in many respects following in about the same ruts as their progenitors before them; the generation of to-day perhaps knowing a little more, but not being much wiser, nor much more foolish than the one of three decades ago. The son of the fakir of thirty years ago comes along to-day with the same antique fake, fitted up with '98 improvements, and catches lots of suckers—the sons of the suckers his father took in when he was a youngster. Recently a circus has been exhibiting at some points in Manitoba, and really the way in which the gamblers coined money in some of these places is astonishing. We had thought that the man with the nutshell game had had his innings and given way to some loaded dice fiend or some individual with a revolving-arm machine, or some other of the well-known innumerable tribe who make their livelihood by some despicable fraud. But no! He has bobbed up serenely again and continues to rake in the shekels just—oh, well, just as of yore! There are some persons who would feel wrong if they came home from a circus or show with money in their pockets. They go there to "bust the bank," and it never fails to "bust." But among the victims there are always a number of intelligent men who know better, but after looking on awhile believe they are on the inside track, put up their nice little pile, and then proceed to show the natives how it is done. But somehow the game is lost, and these men go away, let us hope, sadder but forever wiser. The writer heard of one man at Rapid City who thought he had a sure thing, and, not satisfied by making his fortune by degrees, put up one hundred dollars as a starter. Of course, the man behind the stand won that game—he generally does. When will men learn to use more common sense in these matters? They know that the travelling fakir is going around to cheat them, and that if he couldn't do it he would go out of the business. But why talk of such things? People learn by experience, but there is such a large crop of gullible dupes coming into the field all the time that the fakir always

I was rather amused the other day at one of those persons who are always crusading against "farming from books." She was an old lady, and we happened to speak about a certain work on dairying. "Oh," she said, "it's likely it's like the rest of them. Perhaps the person who wrote it never saw a cow." Her ideas were identical with those which come from some of the farmers now and then, viz., that experimentalists are a pack of humbugs and that agricultural writers have no earthly knowledge of what they are talking about, that an exchange of ideas among the farmers does no good, and that all a farmer learns he must plow out for himself. And thus, only second-handed, do they get the good from these advantageous institutions. They get some of the blessings all right, but not direct. The newest things in machinery, the latest discoveries and triumphs of the field and garden, in fact, all the many new and wonderful things which investigation is constantly disclosing—these have all lost their freshness before they ever hear of them. They drag in the rear rather than march in the van. Whenever anything becomes so well established and so well known that it positively jams itself right into their eyes, they at last see it. They are behind the times—that's all.

But what is the reason that people think and talk this way? Generally, I believe, it is because of either ignorance, prejudice or conceit, or, worse still, of all three combined. There are some men who believe that the earth is flat, and all the astronomers under heaven could not make them think otherwise. They are ignorant and cannot see the good in education. There are some farmers that way. Then there are some who have acquired such a contempt for white shirts and clean clothes that they are desperately afraid that some "city chap" is going to try to teach them something. They are prejudiced. Then there are some who think they know it all anyway. They are conceited—they don't. It need not be said that none of these three things pay their way. The wide-awake farmer is not afraid to pick up information and new ideas, no matter where they come from.

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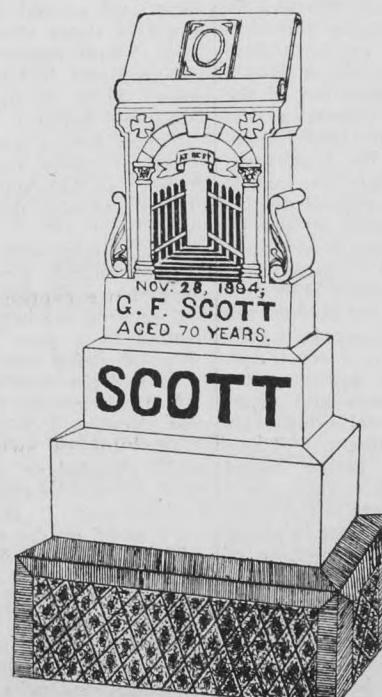
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And now the fruit season is over and the farmers and farmers' wives, who have had a few bushes and a small garden, have rows of bottled fruit and are glad, and the farmers and farmers' wives who have none are wishing they had, and blaming the Manitoba climate for it all. Surely by this time it has been sufficiently demonstrated that every farmer can grow lots of the hardier varieties of small fruits, if he tries. Gooseberries and red and black currants were an especially good crop this year, and they require almost no care. The objection that a great many people make to any suggestion of a garden is that it is no use planting a garden without fencing it. Well, then, fence it. Farmers can fence their whole farms, but many of them seem as though they could not fence a garden to keep the stock out. Everyone ought to have his place fenced, so as to keep his animals away from the house, anyway. In the matter of setting out their fruit bushes it seems as if a good many make the mistake of huddling them too closely together and leaving no room to cultivate between with a horse. They soon get tired of digging and hoeing the whole patch, and let the weeds grow. A good plan is to set the rows of bushes about, say, ten feet apart, and then the land can be plowed between and close up to the bushes, spring and fall, and a crop of roots put between the rows each year. It makes much less work and the ground is sure to be kept clean of weeds.

G. B.

Central Assiniboia.

The summer fair for this fine agricultural district was held at Qu'Appelle Station on August 3 and 4. The three local societies of Indian Head, South Qu'Appelle and Fort Qu'Appelle have come to a joint arrangement by which the fair will be held at each place in turn. This plan, if vigorously carried out, ought to bring together the best products of some of the finest farming country west of Manitoba; but the idea, so far, has only had a very moderate amount of practical realization. Here as, at too many other places, very few people want to show unless there is a sure chance of getting a prize, and even then only moderate pains are taken to make the display of special merit. The directors showed no lack of zeal, and did all they could to make the show attractive.

The first day was mainly devoted to stock, the second to sports in considerable variety. The weather on both days was fine. A large excursion from Moose Jaw was present on the afternoon of the first day, after they had spent a few pleasant hours at the Indian Head Experimental Farm. This, with the local visitors, made the first day perhaps the busiest of the two. There was a capital display of implements. The cultivator shown by Alex. Hess, Moose Jaw, appears well suited to the kind of work it is meant for. The report of cream separators sold during the past season shows that farmers are willing to do justice to dairy work, if only a fair chance is given them to carry it out.

The Experimental Farm had a pretty full exhibit of grains, grasses and vegetables, set out with the usual good taste and skill of that establishment. There seems to be always fine weather round that place, and though this year there have been too many cold days in the early part of the season and a late frost to check progress, the prospects for a repetition of the fine crops of the last two seasons are fairly good.

The second day's sports, or gymkhana, as is now the favorite title, were lively, abundant and varied. Ingenious varieties, especially in the way of horsemanship, were freely introduced, and those in want

of a spice of sensation might with advantage study the programme. We give a few names from the programme: Hurdle postillion, potato tandem, Victoria Cross, cigar and soda water, needle and thread, polo, apple and basin races, besides more ordinary events, were all gone through without accident, and the course was as a rule crowded with equestrian competitors. A. W. Sherwood, Indian Head, was a star performer.

Concerts on both nights were held in the town, and on the grounds a band was in attendance. There were several members of the legislature present, including Senator Perley, Dr. Douglas and N. F. Davin, M. P.'s; J. N. Ross, Minister of Agriculture, and Messrs. Brown and McDonald, M. L. A.'s.

This fair, hampered by the necessity of moving round, and consequent want of permanent buildings, has not so far turned out what it ought in justice to the district to be, and the fault is not in the management, which does all it can to make it interesting and attractive. No finer grain can be grown than the district produces, yet the show was meagre.

The stock display was not as representative as it ought to be, taking into account the amount of good stock that is raised throughout the district. No doubt the lack of stock sheds keeps away some of the herds. Men do not care to tie stock up to the fence for two days.

There was a capital lot of horses shown and many of the classes were fairly well filled. A. M. McLean, manager of Lord Brassey's Sunbeam farm, Indian Head, secured all the best awards for draft horses. He got first for draft, general purpose and carriage teams. James Pollock, Indian Head, secured first for walking team. A. Dundas had the best draft brood mare. John Tate had the best team of roadsters; they are good travellers. Jas. Smith's team was placed second; he also won several other good awards. A number of good stallions were shown, also a number of good saddle horses.

Shorthorns were not shown in large numbers; some good individuals were shown, however. The first prize aged bull was shown by J. R. North, of Fort Qu'Appelle. He is a bull of good quality. Second place went to Geo. Bailey for a nice animal but in low flesh. J. B. Hawkes showed a fine straight, thrifty, 2-year-old. First and second places for yearlings were taken by North and Bailey. First and second prize bull calves were found in those shown by F. Skinner and R. S. Smith respectively. James Pollock, Indian Head, had the two first prize aged cows. Thos. Skinner had the first prize 2-year-old heifer.

Polled Angus were the only other pure breed of cattle represented. A. Dundas & Son, of Qu'Appelle, made some good entries; so also did Thos. Skinner, Kate-pwe.

Grades were well represented, and a lot of good animals were shown. J. R. North showed two exceptionally good beef cows, and secured the herd prize for grade herd, headed by a pure bred bull. A number of good dairy cows were shown. Thos. Gray had the champion dairy cow.

A small exhibit of pure bred Shropshires was made by J. Fessant and P. Isabelle.

The exhibit of swine was small but good. Yorkshire were shown by C. W. Hunt, Berkshires by F. T. Skinner, James Pollock and J. Howden. There were some good grades shown.

The show of poultry was a most creditable one. Many of the specimens were of high merit and mostly of the useful breeds. Plymouth Rocks were the most numerous. Light Brahmans, White Wyandottes and Leghorns also made good showings. Ducks and geese were also shown.

The exhibit of roots was good, though not large. Potatoes were specially fine.

The display of ladies' work was a very creditable one, and the exhibit of cured meats, pickles, bread and preserves was one of which any district might well be proud.

The Farmer has pleasure in showing elsewhere in this issue a view of some of the prize stock exhibited.

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Conroy's Combined Harvester and Thresher.

Those of our readers who attended the Winnipeg Industrial Exhibition this year will remember seeing a curious looking machine, part binder and part threshing machine, near the stock buildings. This machine was Conroy's Combined Harvester and Thresher. It consists of a cutting table and an elevator, which passes the grain into a small threshing machine, which threshes, cleans the grain, and bags it. It is made at Dechene, Ottawa Co., P. Q., where Mr. Conroy says a small number of these machines have been in use for three years. His machine has been at work on the farm of Mayor Evans, of Brandon. Speaking to Mr. Conroy, Mayor Evans said: "I am more than convinced that your machine is everything you claim for it, and that you will have no trouble in convincing the farmers of Manitoba that you have a good article and something they require. I have never had a binder on my farm which did such clean work. I took particular trouble to see if there was any grain left in the straw, but I found none, not even in the green grain you threshed.

world. It was working in as soft ground as you will ever meet, and immediately after a two days' rain, when both straw and grain were very soft, and when you add to that being a new machine with an untried outfit of men and horses, I must say I was astonished at the work it was doing, in fact I never saw cleaner or better threshed grain. I may say further that upon enquiry I find that your machine returns at least three bushels more per acre than the owner of the crop expected he would get off under the ordinary binder; as there is no waste in shelling in the handling. As your machine can be run by three men and six horses, there is not the slightest doubt in my mind that crops can be harvested in this or any other country 50 per cent. cheaper than under the present system."

John Durnin, who has Mayor Evans' farm rented, gives the following in his testimonial to Mr. Conroy: "I have nothing but praise for it. When I saw it working I could not believe that it could do any such work in green grain, and have no hesitation in saying that the harvester works perfectly, and have never seen better threshing and very seldom as good. And further, you had everything against you, a new machine, a new outfit of men and

Kicking Cows Cured by Kindness.

Much of the trouble caused by kicking cows is due to bad management on the part of the milker. In our experience there is not one cow in a dozen but that, if kindly treated, will soon dispense with the habit of kicking without severe measures being necessary. It pays to be gentle and quiet in handling the cows, and to let them know that you are their friend and will not harm them. They will soon learn to respect you if you will treat them kindly. It is all well enough for a cow to know and understand that the one who does the milking is the "business manager," but there is no better way to gain the good will of the cow than by gentleness and firmness. Severe measures are, as a rule, likely to be resented, and only make bad matters worse. A man who is, or pretends to be, afraid of a cow has no business to do the milking, as a cow can easily distinguish this class of individuals and is likely to discriminate against them by vigorous kicks. I have had considerable experience in breaking cows to milk. Still, I never experienced much difficulty in milking them, but went about the milking without any straps, rules or regula-



Conroy's Combined Harvester and Thresher, at work on the Farm of Mayor Evans, Brandon, Man.

It also cleans the grain thoroughly. No cleaner could do it better, and I think this is a strong point in favor of your machine when you consider that the farmer is docked from two to six pounds off each bushel for cleaning at the elevators. There is no possibility of waste of grain, from the fact that every head of grain which is cut and falls on the table is carried into the separator, and is threshed and passes into the bags. Then there is the difference in the cost of harvesting and threshing. When you have done cutting and threshing with your machine, the cost is no greater than cutting and stooking would be. After that in the old method you have the stacking threshing and board of men to pay, which would mean, if you hired it all done, about seven cents per bushel. And, taking everything into consideration, I think there is a great future for your machine in this country, and that at no distant date it will take the place of the binder and thresher now in use in Manitoba."

J. A. Christie, President of the Brandon Board of Trade, examined the machine at work and expressed the following opinion of it to Mr. Conroy: "I have no hesitation in pronouncing the machine a perfect success; when it will work in Manitoba under the conditions under which I saw it working it will work anywhere in the

horses, and very soft ground. In ground where my binder slipped, your machine went right along. The weather also was the worst you could have had, as the grain and straw were damp after a two days' rain. If you will guarantee to have two machines here in time for cutting I will cut my crop next season with your harvesters, as I consider I would save at least fifty per cent. over the present way of handling the harvest. I believe the machine has a great future in this country. In conclusion, the return of the grain, which I measured very carefully, was at least three to five bushels per acre more than my estimate."

Besides cutting standing grain the machine can be used for stook threshing—that is, it can be drawn up and down the field and the stooks thrown on to the machine. The straw is left spread over the field, and can be either burned off or raked up and drawn into stacks for winter use.

A man's wife should always be the same, especially to her husband, but if she is weak and nervous, and uses Carter's Iron Pills, she cannot be, for they make her "feel like a different person," so they all say, and their husbands say so too!

tions in regard to kicking, except the tacit understanding that we expected good order to prevail. Then, if by accident a pail is kicked over, there is not much a man can do but to quietly pick up the pail and go to the next cow, after finishing that one. Some cows are too polite to kick, and others kick because they know no better. These can easily be persuaded to be gentle, and can be cured by kindness. Still others kick for the good reason that the milking process hurts them. There are also, occasionally, cows that kick from pure meanness. However, these make excellent beef.—F. H., in The Cable.

No other preparation has ever done so many people so much good as Hood's Sarsaparilla, America's Greatest Medicine.

Recently Mr. K. P. Armour, of Kansas City, with his family and a party of friends, paid a visit to Winnipeg. At their hotel they enjoyed the breakfast bacon so much that they all had a second helping. On enquiry, Mr. Armour found it was the renowned Red Cross brand, and promptly visited the J. Y. Griffin & Co.'s office and ordered a supply for his private car. Mr. Armour has charge of the packing house in Kansas City and is a nephew of Mr. P. D. Armour, of Chicago.

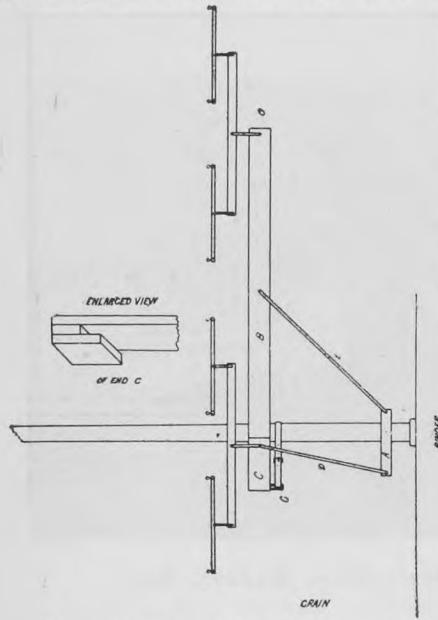


While our columns are always open for the discussion of any relevant subject, we do not necessarily endorse the opinions of all contributors. Correspondents will kindly write on one side of the sheet only and in every case give the name—not necessarily for publication, but as a guarantee of good faith. All correspondence will be subject to revision.

Four-Horse Evener for the Binder.

J. L. Telfer, Portage la Prairie, writes :—"I mail you a tracing of my four-horse binder evener, which I believe to be far in advance of anything that has been in use hitherto. It is not known outside of ourselves, and I have lately been urged to protect it, but at your request I send you the tracing, so that you can make it known to the farmers of the country."

"A study of the cut reveals the principle of the construction of the evener. A is a piece of two-inch bar iron, 15 inches in length, and is bolted to the tongue as near to the binder as possible, 10 inches long



on the grain side and 5 inches on the other side. B is a 2x5 oak scantling 6 feet 6 inches long, placed across the tongue, but by no means fastened to it. C is a stay 12 inches long and bolted to B, 2 inches from G end. The holes in C are 10 inches between centres. It is raised above B at G end, so as to allow of the free working of the two iron rods D, which are each 28 inches long. One end of each rod is bolted to A, and the other end to the free or inner end of C along with the doubletree clasps, one above and the other below at both ends. E represents two iron rods 34 inches long bolted at one end to B at a point 29 inches from the end O, and at the other end to A, one above and the other below.

"Now comes the most essential part—the means by which the whiffletrees are brought to their proper place on the tongue. A staple is driven into the scantling at the G end; a stout leather strap passes through this staple around the tongue and is buckled together. It is by this strap that we adjust the side draft. The whole thing wants to be loose, so that the strain comes directly on the iron evener. The strap should not be given a lap around the tongue.

"If any of the readers of your paper should take the trouble to try this evener and follow these directions carefully, they

will find that it will work well, and that there will be no trouble with the horses crowding. I will be pleased to hear, through the columns of The Farmer, from any one who makes one of these four-horse binder eveners."

Stone Building.

D. L., Kemnay :—"I am thinking of building a stone granary. Have you ever seen one built of stone without any inside lining of other material, and, if so, what kind of satisfaction did it give? Would grain spoil by coming in contact with bare outside stone wall?"

Answer.—Of the numerous new stone buildings we have seen in the west we cannot recollect one that was used for the storage of grain in direct contact with the walls. Such storage has been usually made in the second story, and that as a rule is built of lumber. We think that if a building is used for grain storage only, there would be no risk of injury to the grain by lying against the wall. The moisture that is frequently seen on the inside of stone walls is caused by the difference in temperature of the air outside and that inside. In a cattle stable, for example, the moisture on the wall is due to the fact that the stone is a rapid conductor of heat and cold. The invisible vapor in the warm, moist air of the stable becomes condensed by contact with the stone and will form faint streams running down the face of the wall. If, as in our winter, the outside frost is very keen, that moisture may show as ice or white hoar frost, and grain will get serious injury by prolonged contact with such a wall. But used as a granary only there would be next to no difference between the outside and inside temperature, and therefore no condensation on the face of the wall. Grain kept in a boarded granary out in the field gets no injury from frost or damp, provided it was put there in proper condition when threshed. But if threshed off the stook and not properly sweated in the stack, there would be no chance of grain getting dried inside a stone wall, and that wall would by a shallow observer be blamed as the cause of consequent mustiness.

Ice House—Separator.

Subscriber, Fleming, N.W.T., writes :—"Would you, or some of your readers, furnish information as to how I can best construct a suitable ice house for a dairy of about ten cows? How can ice be kept in absence of sawdust? Would there be much, or any, loss between deep setting milk in ice water as compared with using a cream separator?"

Answer.—On page 30 of The Nor-West Farmer for January, 1898, you will find hints on the construction of an ice house without sawdust. If you have only ten cows and can store ice, it would scarcely pay to buy a separator. Like every new invention, the separator is being rapidly improved, and is also getting cheaper year by year. If, by rubbing along a year and losing only a small proportion of your butter fat for want of a separator, you may get a machine at less cost, perhaps simpler also in construction. And besides that, a calf really gets some good out of that lost cream, though the manufacturers don't say so.

Fungus on Rhubarb.

W. Rowles, Lucas, Man., writes :—"Please inform me what is the matter with my rhubarb. It turns a rusty brown color and gradually dwindles away. When dug up the crown of the roots seems to be decayed?"

Answer.—It is being destroyed by a fungus disease, and the only cure is to dig

up all the plants attacked and plant something else in their place. Get new roots from some other garden, and plant a good way off from the present bed. Don't use any tool in planting the new that has been in contact with the old, or the new will soon become affected.

Poisoned Pigs.

Subscriber, Oswald, writes :—"I would like to find out through your valuable paper what five of my pigs died of. I will give you the symptoms as far as I know of them. There were six spring pigs in the one pen, and they were all well and hearty when I fed them at 7 o'clock in the evening, and at 9, just as I was getting through with the chores, my boy called me and said there was something wrong with the pigs, and when I got there five of them were dead, and the other was sick, so I watched it. It seemed to be in terrible pain, but kept lying down most of the time, and kept groaning, till at last it got up, and, as it walked, it staggered, and then it began to vomit. It did that three times, and then went and lay down alongside of two that were dead, and it seemed much easier, so I went to bed, and in the morning it was all right. They have been getting fed lately with boiled roots, mangels, sugar beets and turnips, with shorts mixed in, and the cleanings from the granary, oats and wheat, all boiled together. The milk from two cows, and the buttermilk from six. I would let the milk sour, and then mix it with the roots and once a day I would throw them in an armful of pig weed. Their trough was cleaned up the night they died. There was the sow and one more of her litter in a pen adjoining, and all were getting the same feed, and they were not affected. They have been getting salt and sulphur occasionally. Would you please let me know what disease it is, and how to guard against it in the future?"

Answer.—The symptoms described point strongly to poisoning by something taken with the last feed, probably an overdose of salt, which you say you have been giving, as well as sulphur. Pigs are easily poisoned with salt, a fact not as widely known as it should be, and should get little or none of it. If not salt, it is possible something poisonous, such as bluestone, or gopher poison containing arsenic, may have been swept up with the cleaning of the granary and thus got into their feed.



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Sheep and Weeds.

Alex, McLay, Horse Hills, Alta., writes:—"In your issue for July, John Brander refers to my article in your May issue on "Sheep and Weeds." He was sorry I did not give the number of bushels raised per acre and the number of sheep pastured on the ten acres. I sent the number of bushels raised per acre and asked the editor to publish it, but probably he did not get it in time, as I did not send full particulars in the statement first sent. I raised 51 bushels per acre of No. 1 Red Fife. The number of sheep pastured was, as near as I can recollect, about 40 head, 20 ewes and 20 lambs. I turned them in about the 10th of June, and they were kept there a little more than half the time until the middle of September, when they were allowed to run over the rest of the field. The article referred to explains the rest. I had summer fallowed another piece the same summer, about 20 acres, and had harrowed it twice, at two different times; still buckwheat and pigweed grew up after harvest. I turned the sheep on this, and they cleaned off all weeds, packed the soil, and also scattered their manure evenly over the land. Now, I have a fine crop of wheat with few weeds, and although this was a dry spring, the land did not dry out; neither did it blow with wind. I did not stir the soil, only put the seeder on.

"I also grew the finest crop of potatoes by fencing a piece off, and turning the sheep in at night. In the spring I plow and plant potatoes every second furrow, and, as I don't cut the seed, consequently I have no dry rot. I harrow the ground until I have a good seed bed. Weed seeds soon germinate. I turn the sheep on, possibly several times, and I have no more trouble with weeds that season. I made a shovel plow (as I do all my own blacksmithing), and furrow up when the potatoes are far enough advanced. I never have to use a hoe. In the fall I plow up with a home-made potato digger, which does excellent work, though not patented. By following the above plan I never miss a crop, either in the field or the garden.

"The editor in his note asks me to be good enough to explain if land pastured by sheep and plowed would not produce too rank a growth in ordinary seasons, and be apt to get frozen. Yes, in an ordinary season it would, but last year was drier than usual, and my wheat on the pastured land ripened all right. I did not keep the grain separate that was grown on the two different pieces of land, but it was easily seen that the disked land gave the heaviest crop, shorter straw and plumper grain. It ripened six days earlier.

"I hope my explanation will be plain to Mr. Brander and others. I would like to hear from any parties who have tried pasturing sheep on weedy land. I have found nothing pay as well as a bunch of sheep. They produce profit in one year in three directions — Wool, mutton and lambs."

Volunteer Crops after Hail.

Rambler, Chater, writes:—"Having occasion this season to do considerable travelling through the district north of here, which was hailed last year, I was not a little interested in the volunteer crops. Some of the best looking crops I saw had not had a handful of grain sown. Some farmers, by one method of cultivation, had their crops too thin, while others were perhaps a trifle too thick. I would like to hear through your October number from some of the farmers in this district, giving their experience and the results."

Answer.—We see very little to be learned from the discussion of volunteer crops.

A hailstorm strikes a nearly ripe crop, or a wind hits an over-ripe one, and a lot of grain is shed. If the land is good and clean a volunteer crop next year will pay. But that is the exception, and for one such crop worth having there are half a dozen that prove an actual loss through weeds and uneven growth. If, after an accident, such as hail, does happen, the stand next spring looks good, it may be all right to leave it, but that is a rare case. We have seen a good crop of that sort, but not often.

Keeping Mice Out of Stacks.

G. R. B., Brandon:—"What is the best method of fixing stacks of oat sheaves which are to be kept for feed against the

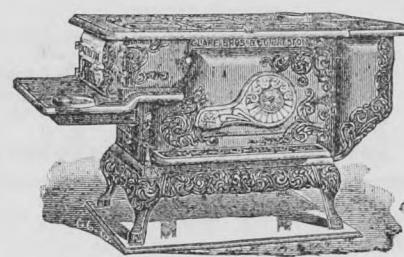
inroads of mice? I have heard that there is some plant which grows here which will keep them away by putting a little among the sheaves in the outside rows."

Answer:—We do not know of the plant. Does anyone know anything about it?

Pruning Currant and Gooseberry Bushes

J. H., Brandon:—"What is the best time to prune currant and gooseberry bushes? Also please give some information as to what have been found to be the best methods in this country?"

Answer.—Pruning may be done at almost any season, but perhaps there is no better time than in August. It can be done this fall. To prune both the currant and gooseberry it is necessary to know



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that very little fruit is borne on wood of last year's growth. Two-year-old wood bears a good crop, but the heaviest crop is always on three-year-old wood. The oldest wood, weakened by age, should be cut out close to the ground and enough new shoots left to take its place. From one-fourth to one-third of the new shoots should be left each year to replace the old wood cut out. The rest should be cut out, because a fair sized bush is better than too large a one. What we have said so far applies to black currants. Red currants grow slightly differently, the fruit being borne on spurs from the main stems. The principle of bearing and pruning, however, are the same. About one-third of these spurs should be cut back each year, and it is not wise to allow too many stems in a bush. Gooseberries are pruned much the same as red currants. From a third to a half of the new shoots are cut off each year.

Among the Breeders.

James Yule, manager of the Prairie Home Stock Farm, Crystal City, writes:—"The Prairie Home herds got home from the fairs without any misfortune, and are doing well after their trip. Judge, the sweepstakes bull, is now looking better than he was at the fairs, and is the only animal we refuse to sell. Inquiries are coming in daily for stock. The following are the sales made during the fairs: To Purvis Thompson, Pilot Mound, the 4-year-old bull Caithness (22065), bred by A. W. Smith, Maple Lodge, Ont. When he left Prairie Home his weight was 2,620 lbs., and he is now in good hands, and will be heard of again. Bridesmaid and her heifer calf and the yearling heifer, Lama, go to McLean, N. Dakota. Mr. Hoff made a good choice. Crimson Knight, the bull calf that headed the young herd, has gone to Mr. Chalmers, Hayfield. He is a calf of great substance and splendid breeding. To Adamson Bros., Gladstone, a bull calf. To Purvis Thomson, Pilot Mound, one Yorkshire sow. To John Greenway, Crystal City, Yorkshire sow. One Yorkshire boar to each of the following: Robert Kemp, La Salle; Weibe Bros., Rosenfeldt; John W. Parker, Blythfield; John Milloy, Beresford; Hiram Gills, Grafton. To W. J. Helliwell, Oak Lake, one Shropshire ram. To W. McKay, Glencross, one ram lamb. We do not intend to show the cattle any more this fall. We have a large crop to

take off, and are also building a new piggery."

As Others See Us.

John I. Hobson, Guelph, Ont., president of the Dominion Cattle Breeders' Association, writes:—"I am just in receipt of the August number of The Nor'-West Farmer. It is a splendid paper. Not only does this August issue contain a great deal of useful information, including a well-written-up description of the leading fairs held in Manitoba, but the illustrations display artistic excellence of a very high order. It is to be hoped that the farmers and the stockmen of Manitoba and the Territories will loyally support and assist you in keeping your paper up to such a high standard. To do that requires the co-operation and material aid of the farmers of the country. It is not putting it at all too strongly to say that it ought to be in every farm home in all your western land. There is no more powerful factor leading up to a higher state of agriculture, and to the carrying out of more profitable practices in farming, than the dissemination of useful knowledge through the medium of the agricultural press. The man of ambition who is desirous of standing in the front rank of the successful farmers of the country knows well that he cannot afford to do without agricultural papers. Life is too short, and a farmer's own locality is confined within too narrow limits for him to learn all that is worth knowing of his calling from his own experience and observation. I have often thought that one of the greatest mistakes which some farmers make is, that, after giving their sons and daughters an opportunity of acquiring a fairly good education in the schoolroom, they refuse in their own homes to supply them with that mental food so essential to the growth of the mind.

"Allow me to correct a mistake which appears on page 356 of the issue of your paper referred to. In quoting what I had said about the exhibit of cattle at the Winnipeg fair, it reads as follows: 'In commenting upon the cattle display at the Industrial, said that he had never seen a better collection in point of quality, etc.' I was, in speaking in that way, referring to the three herds of Shorthorns—not the general display."

G. W. Clemons, St. George, Ont., judge of dairy cattle at Winnipeg, writes:—"I reached home safe and sound, and not

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BEDDING AND HOUSE LINENS, CHEAP BLANKETS.

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Our traveller will call on you with samples if you will send in your name.

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much the worse for the long trip. Although this was my first trip west, I trust it may not be my last, for nowhere have I found a more hospitable people. The excellence of your fair was in many departments a distinct surprise to me, and the August number of The Nor'-West Farmer gave a splendid description of all the leading features. It was an artistic number, and a credit to western journalism. I hope that your efforts to provide a high class paper are appreciated, as they deserve."

Thos. Russell, Exeter, Ont., judge of beef breeds at the Winnipeg Industrial, writes:—"As the great exhibitions were undoubtedly the one interesting event of the month, at least to the agricultural classes, it was especially fitting that you should issue an exhibition number of The Nor'-West Farmer, and that number is a credit to your province. One of the great features of your issue is the number of excellent illustrations of the prize-winning exhibits at the fairs. The value of these cannot be estimated too highly, for in no other way can such an accurate and lasting impression of the individual points of merit in the different animals be conveyed. Your reports of the judging are full and generally pointed and suggestive."

J. F. Quin, V.S., Brampton, Ont., who was one of the judges of horses at the Winnipeg Industrial, writes:—"I am delighted with the description of the fairs, as given in the August number of The Nor'-West Farmer. They are the best I ever saw. In fact, every department, in my opinion, is up to date. You deserve a lot of credit, and the patronage of every farmer and stockman in your country. I was benefitted by my trip very much, and delighted with what I saw of the country."

Whatever may be the future of Manitoba with regard to growing the larger fruits, it is a matter of great importance that all the smaller kinds of fruit can be grown most successfully. All they want is the proper care and attention—the know how. H. Cook, of Souris, picked 350 quarts of red currants from the bushes on a piece of ground 27 feet wide and 60 feet long. There is no reason why every farm in Manitoba cannot produce all the social fruit that can be used on the farm.

When it becomes necessary to kill the young kittens always leave one for the mother. Cats suffer greatly when all their kittens are taken from them.

Live Stock Impounded.

Ellice, Pound No. 4, Sec. 12, Tp. 18, R. 28—One heifer, color red, with white belly, T. J. Redmond, poundkeeper.

Franklin, Sec. 15, 3, 4 East—One mare colt, color bay, two years old, white strip on face, three white feet; one mare colt, color bay, two years old, white spot on face, one white foot; one mare, color brown, nearly black, white spot on face, white spot on right front foot. R. D. Smith, Carlowrie.

Hanover—One mare, color bay, white stripe on face, split up under lip, right hind foot white; one mare, color sorrel, white spot on forehead, left hind foot white; one horse, color gray, burnt mark (L) on left shoulder. Jacob Neufeld, Steinbach.

Langford—One mare, color bay, two hind feet white. P. Gosling, Neepawa.

Odanah, Sec. 16, 13, 17 W.—One heifer colt, color red, about four months old. Robert Kerr, poundkeeper.

Odanah, Sec. 14 Tp. 13, R. 18—One mare, color buckskin, about 6 years old, branded (P) on right hip and 2 on left hips; one horse, color buckskin, about 7 years old, branded (P) on right hip. H. Sherris, poundkeeper.

Odanah, Sec. 2, 15, 17 W.—One horse gelding, color white, aged; one Clyde horse, color bay, about 3 years old, white stripe on face and two white hind feet; one pony horse, color roan, with white face and one hind foot white, branded on left hip, aged. Alex. R. Douglass, Franklin.

Portage la Prairie, Pound No. 5, Parish Lot 127—One gelding, color bay, with white stripe on face, little white on hind legs and branded C. S. on off shoulder. Robt. Richardson, Portage la Prairie.

Springfield—One bull, color red, with white stripe on back, one year old. F. Laurie, Millbrook.

South Milbrook Pound—One bull, color black, with white face, about 2 years old. F. Laurie, poundkeeper.

South Norfolk, Sec. 26, Tp. 7, R. 11 W.—One pony mare, color bay, star on forehead, about 5 years old, branded on the right front shoulder (indistinct). Chas. Furber, poundkeeper.

Winchester, 18, 3, 25.—One horse, color chestnut, aged, white strip from forehead to right side of nose, both hind feet white, branded on left shoulder J. F. T., on left hip J. F. N., and white spots on left side. R. J. Hartry, Napinka.

Teacher—What do we learn from the story of Samson. Tommy (with unpleasant results still manifest)—That it doesn't pay to have women folks cut a feller's hair.

A florist of many years' experience gives the following recipe for preserving bouquets: When you receive a bouquet sprinkle it lightly with fresh water; then put it into a vessel containing soapsuds, which nourishes the roots and keeps the flowers as bright as new. Take the bouquet out of the suds every morning and lay it sideways in fresh water, the stock entering first; keep it there a minute or two, and then take it out and sprinkle the flowers lightly by the hand with pure water. Replace the bouquet in the soapsuds and the flowers will bloom as fresh as when first gathered. The soapsuds should be changed every third day. By observing these rules a bouquet can be kept bright and beautiful for at least one month, and will last still longer in a very passable state. But the attention to the fair and frail creatures as directed above must be strictly observed.

Fall Fairs, 1898.

Western (London, Ont.)—Sept. 8 to 27. Central Canada (Ottawa).—September 16 to 24.

Hamota—Sept. 23.

Wolseley—Sept. 27.

South Saskatchewan Ag. Soc. (St. Louis de Langevin)—Sept. 27.

Rothbury and Logberg (Rothbury)—Sept. 28.

Woodlands (Meadow Lea)—Sept. 28.

Springfield (Dugald)—Sept. 28 and 29.

Saltcoats—Sept. 29.

Moosomin—Sept. 29.

Fish Creek (Calgary)—Sept. 29.

Morden—Sept. 29 and 30.

Lorne Ag. Soc. (Somerset)—Sept. 30.

Strathclair—Sept. 30.

Oak River—Sept. 30.

Argyle, Woodlands, Woonona—Sept. 30.

Gilbert Plains—Oct. 1.

Mountain (Crystal City)—Oct. 1.

Beausejour—Oct. 3 and 4.

Mountaine E. D., No. 2—(Pilot Mound)—Oct. 4.

South Edmonton—Oct. 4 and 5.

Kildonan and St. Paul's (Kildonan)—Oct. 4 and 5.

Dauphin—Oct. 5.

Norfolk, No. 2 (Austin)—Oct. 5.

Lorne (Saskatchewan) (Prince Albert)—Oct. 5.

Russell—Oct. 5.

South Brandon (Wawanesa)—Oct. 5.

Holland—Oct. 5.

Dauphin—Oct. 5.

Carillon—Oct. 5.

Rockwood (Stonewall)—Oct. 5 and 6.

St. Andrew's (Selkirk)—Oct. 5 and 6.

Minnedosa—Oct. 6.

Innisfail—Oct. 6.

Elkhorn—Oct. 6.

Gladstone—Oct. 6.

Deloraine—Oct. 6 and 7.

Lacombe—Oct. 6 and 7.

Rapid City—Oct. 7.

Dufferin (Carman)—Oct. 6 and 7.

Baldur—Oct. 7 and 8.

B. C. Provincial (New Westminster)—Oct. 5 to 13.

Virden—Oct. 11 and 12.

Beautiful Plains (Neepawa)—Oct. 11 and 12.

Woodlands, No. 2 (St. Francois Xavier)—Oct. 11 and 12.

Glenwood (Souris)—Oct. 13 and 14.

Turtle Mountain (Boissevain)—Oct. 13 and 14.

Sweating in the Stack.

One of the things that every old-timer has learned, generally by experience that cost money or money's worth, is the very great advantage of having wheat properly cured. In the dry climate of California it may be let stand uncut till it is threshed by the same machine that cuts off the ripe heads, and the newly-threshed grain can be stored in an elevator without any fear of its getting damaged or musty. But the almost universal experience of Western Canada is that unless the grain stands in the stack till the excess of moisture in the kernel is sweated out, it will not have the bright color of first quality wheat and is very liable to get musty if not even heated in the bin.

There has been and there promises to continue to be considerably more moisture this season than the average, and, even after standing a fortnight in stack, the grain is bound to be more or less raw. Thresh it in that state, and store it in bulk and the risk of heating, or getting off color, with corresponding loss of grade, is greater than would be the case in ordinary seasons. This is liable to be overlooked in the rush of harvest, but we cannot break any natural law with impunity, and the wisdom of stacking, this season especially, will be demonstrated very plainly before most of us are two months older. Buyers are wide enough awake, and will be pretty sharp to detect defects of the kind here mentioned and knock down the price accordingly.



Cinderella's fairy god-mother, with one touch of her magic wand, transformed the maiden's rags and tatters into the richest silks and satins. There are thousands of young women to-day who need a fairy god-mother who will touch them with the wand of health. A girl's best gift is her health.

Every girl may be a healthy girl and become a healthy wife

and a capable mother, if she will but take the proper care of herself in a womanly way. Dr. Pierce's Favorite Prescription is the best medicine for ailing women, young or old. It strengthens and invigorates the organs distinctly feminine. It promotes regularity of their functions. It allays irritation and inflammation. It checks unnatural and exhausting drains. It puts the whole organism concerned in wifehood and motherhood into perfect condition.

Almost all of the ills of womankind are traceable to some form of what is known as "female complaint." Troubles of this kind unfit a woman for wifehood and motherhood. Thousands of grateful women have been rendered healthy and happy by the use of this marvelous medicine. At their own request, the experience and testimony of many of them have been included in Dr. Pierce's Common Sense Medical Adviser. The "Favorite Prescription" is sold by all good dealers and an honest dealer will not try to induce you to take an inferior substitute for the sake of extra profit.

Mrs. G. A. Conner, of Alleghany Springs, Montgomery Co., Va., writes: "My daughter, aged 15 years, had a goitre coming on her neck and it disfigured her very much. I am happy to say that it has disappeared after the use of one bottle of Dr. Pierce's Favorite Prescription."

In paper covers, 31 one-cent stamps; cloth binding, 50 cents. Dr. Pierce's Common Sense Medical Adviser. Address Doctor R. V. Pierce, Buffalo, N. Y.

Must not be confounded with common cathartic or purgative pills. Carter's Little Liver Pills are entirely unlike them in every respect. One trial will prove their superiority.

When a horse has returned to the stable after a long ride he should by no means be unsaddled within from half an hour to an hour after dismounting or it may tend to the production of saddle galls, which may be very difficult to cure. These galls have their origin in uneven pressure of the saddle, due to faulty construction, from shifting of the saddle when the girths slacken, and not infrequently from bad riding. The reason why the non-removal of the saddle for some time after dismounting acts as a protective against sore backs is well explained by Moller. Where an injury has taken place the vessels are compressed and almost bloodless. If pressure be now suddenly removed blood is vigorously forced into the paralyzed vessels and may thus rupture the walls. On the other hand, if the saddle is allowed to remain some time in position circulation is gradually restored without injury. The fact that the swelling appears after the removal of the saddle supports this explanation.—London Live Stock Journal.

THE NOR'-WEST FARMER

ESTABLISHED 1882.

The only Agricultural Paper printed in Canada between Lake Superior and the Pacific Coast.

THE STOVEL COMPANY,
PROPRIETORS.

CORNER McDermot Ave. and Arthur St.
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All advertisements estimated on the Nonpareil line—12 lines to an inch. A column contains 128 lines.

Copy for changes in advertisements should be sent in not later than the 20th of the month to ensure classified location in the next month's issue. Copy for new advertisements should reach the office by the 30th of each month.

TO OUR SUBSCRIBERS.

It is the intention of the publishers of this paper to admit into their columns none but reliable advertisers, and we believe that all the advertisements in this paper are from such parties. If subscribers find any of them to be otherwise, we will esteem it a favour if they will advise us, and we will at any time give our personal attention to any complaints which we receive. Always mention this paper when answering advertisements, as advertisers often advertise different things in several papers.

LETTERS.

Either on business or editorial matters, should be addressed simply "THE NOR'-WEST FARMER, P. O. Box 1310, Winnipeg," and not to any individual.

Look at Your Subscription Label.

When you pay your subscription, watch the name label on the next two issues which you receive. On the first issue following payment, it might not give the correct date—the type-setting machine may make an error and the proof not be corrected before mailing day. But if the date is not correct on the second issue please notify us by postal card.

Look at the date label now. Are you in arrears? Are you "paid up" to the present date? The label will tell you. If in arrears, please renew promptly.

WINNIPEG, SEPTEMBER, 1898.



SHORT SIGHTED.

On account of the amount of railroad building that has been going on in the province and at the Crow's Nest Pass, and the closeness with which it was gathered up last fall, dairy butter has been in extra good demand. This state of affairs, combined with the prospect of good prices for wheat and the opposition of the storekeepers, has worked sad havoc with the creameries of the Province. In the July issue of The Farmer we published a letter from a creamery patron with reference to the opposition of the local storekeepers to the creamery. Since then the Manitou creamery has closed down for want of support. As soon as the creamery closed, down went the price of dairy butter three cents or more. Since then we understand the price has been restored to its former level. The Neepawa creamery, too, has had to close through lack of patronage. The stores offering the farmers such prices for dairy butter as to coax them to quit the creamery, make up their own butter and sell it to the storekeepers. At nearly every point where there is a creamery there is the same unfair competition on the part of the storekeepers. It is not confined to Manitoba,

either, but is just as strong in the Territories.

We cannot understand why storekeepers do not right royally support the creameries. Neither can we understand why they should pay, as we know they have done, 16c. and 17c. a pound for butter (in trade, of course), and sell it again to the wholesale dealers at from 12c. to 14c. We cannot believe that they are losing the difference, and the supposition naturally is that they are charging enough extra on the goods they sell to make up any loss. If they do, the farmers are the ones to suffer. Can't they see it?

Creamery butter commands a high price because it is an exportable article, which dairy butter is not. The creameries, by removing a large amount of butter out of the country, are the means of keeping the price of dairy butter higher than it would otherwise be. If the creameries in Manitoba were all shut down, the price of dairy butter would soon go all to smash. The creameries are struggling for an existence; it costs money to equip and run them, and the decidedly unfair competition of the storekeepers is very hard on them. If a creamery is beaten out now in any place, dairying will get a setback that it will take years to overcome. The creamery is recognized as the best way of making up the butter of a country. It relieves the farm home of the drudgery of butter-making and gives the cash in hand, so that it can be spent where desired. We feel sure that the farmer will not leave the store he has always dealt with, if he is given a proper discount for cash purchases.

Storekeepers should stand by the creamery. It is a most short-sighted policy on their part to strangle it, and they are standing in their own light more than they think for when they attempt to do so. The price of dairy butter is high this year, and it must be remembered that at this season of the year storekeepers are usually hunting a customer for their butter, and may be doing so yet this year. It may be that part of this increased price at local points is the result of competition among the storekeepers themselves, without any thought of the creamery; nevertheless, it has been hard on the creamery. This, combined with the prospects of a big wheat crop and indifference to the creamery on the part of many farmers, has made the present season a most trying one. To the farmers we would say most strongly, stand by the creamery. Don't be enticed away from it by any alluring offers of high prices for your butter. You are the one that stands to lose by the shutting down of the creamery, and that to an almost absolute certainty. The closing of the creamery is not a question of to-day, or this year, but of years, and your loss will continue for years also. It will ultimately be to your gain, and the storekeeper's, too, to loyally support the creamery and keep it running.

Don't be shortsighted in this matter; look ahead. The price of butter at the present moment is not the most important point in this question. Don't be penny wise and pound foolish.

SUCCESS OF THE FAIRS.

The fall fairs will soon be in full swing and much of their success will depend upon the officers, but more especially on the secretary. Every member of the board of directors must be a worker. Those who think they are appointed out of honor and do nothing are a drag on the rest, worse than useless, and the society should get rid of them. The directors should be men that have faith in the utility of their show, and that the object lessons seen at the fair have an educational value. They

should have a purpose in all their work. Even the amusements should have a purpose in them. The amusements are a necessary adjunct to a successful fair, but all degrading or demoralizing influences should be rigorously excluded. One or two good amusements are better than too many. The utility idea should be kept in view in arranging the classes for prizes, and in the races as well as the exhibits of live stock. Safe and comfortable quarters should be provided for live stock, and this should be in a central place, not away in some out-of-the-way corner.

Make the fair grounds as attractive as possible. Shade trees and seats should be arranged so that visitors can rest in comfort. A liberal supply of pure drinking water is a most important thing. A collection of noxious weeds would make a most interesting exhibit, if they were properly named and labelled. A test of draft teams is always interesting to the public, though not always satisfactory to the owners. Particular attention should be paid to the selection of judges. Make arrangements for a place where a good meal can be had.

Every one connected with the management of our local fall fairs should do all in his power to close out of the grounds the many varieties of fakes and frauds that follow all such entertainments and prey on the simplicity of the rural population by means of games of chance and other objectionable practices. Such rascals cannot be too severely dealt with. Our own principal fair, the Winnipeg Industrial, has not raised its reputation among the best class of the community by its toleration of some of the same class of "attractions." The Minnesota State Fair has for a number of years been entirely free of gamblers, cane racks and kindred questionable schemes. It took a long and determined effort to place the fair where it is, and where it is hoped it will always remain, and our own fair managers, great and small, cannot too soon follow its example.

Provide toilet facilities for both men and women. This is a much neglected feature of many shows.

Above all, advertise the fair well. There is no use in working hard to get up a good show and then not telling any one about it. Make your fair a success.

LIVE STOCK INSPECTOR WANTED.

A Montreal report is as follows:

"Actinomycosis, a disease amongst cattle, popularly called lumpy jaw, is said to be becoming too common at the Eastern Abattoir, Montreal, to be pleasant to the health authorities of that city. Dr. Laberge reported no less than ten cases at that place one day last week, and all of the diseased animals were accordingly destroyed. It seems hard to trace such cases back to the localities where they originated, as the cattle frequently pass through the hands of several dealers before reaching Montreal, but it is thought they come principally from some part of Manitoba."

An attempt was made during last session of the Dominion House to have local inspection made more rigid at western shipping points, and thus prevent all infected animals from going east, but nothing was done. Infected animals cannot pass for export, and there is no use sending such animals to Montreal. It seems that they do not want them there. Neither do the people of Manitoba want to have lumpy jaw beef served up to them. Complaints are made that Winnipeg does get a good lot of it. It is high time a good live stock inspector was appointed at Winnipeg.

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WINNIPEG'S DAIRY BY-LAW AND SOME OF ITS RESULTS.

The dairy by-law of the City of Winnipeg has now been in operation for some time, and no doubt has had a good effect in improving the methods of dairymen, in eradicating disease, and in ensuring a better and purer milk supply to the citizens of Winnipeg. In this we see nothing but what is highly commendable, but when we examine the means by which tuberculosis cows are got rid of we find existing a condition of affairs which is highly objectionable. It seems that dairymen are at liberty to dispose of cows that react to the tuberculin test in any way they see fit, provided they get them out of their herd and cease to sell the milk from them. In consequence of this a trade in diseased animals has sprung up between the dairymen and some of the farmers in the vicinity of Winnipeg. One man does quite a business in buying these cows and fattening calves upon their milk, which calves are then sold for veal to the city butchers. No doubt others are engaged in the same business. When too far advanced in disease to be of any use in this way, the animals are slaughtered and the meat either sold by the quarter in the city, or else made up into sausages. Milkmen are supposed to notify the inspector whenever milk is procured from any source besides their own tested cows, but it is well known that in times of scarcity milk is obtained from any possible source, and it is not at all improbable that some of it comes from cows that have been exiled from the city herds.

This may appear to be a purely local question, and our country readers may say what is that to us if the people of Winnipeg are satisfied? In some respects the farmers need not care if the Winnipeggers are living occasionally on diseased meat or drinking the milk of tuberculous cows, but are they satisfied to have the city unload its diseased animals upon the surrounding country? Where a man knowingly buys diseased cows he deserves no pity, but how is it with the innocent buyer of such animals? How many farmers know that the healthy cow is branded on the right horn, and the diseased one on the left? Can we suppose that every dairyman is so honest that he always points this out to the purchaser? Or what is to prevent the tell-tale horns from being removed? In some of the most recent tests of dairy cattle in the

city 20 per cent. were found diseased. Are the dairymen going to dispose of all these cattle at the price of diseased animals? The law which permits such traffic in diseased cattle is wrong and should be amended. Such restrictions should be enacted as would ensure the protection of the people from the meat and milk products of such animals, and at the same time prevent the spread of disease by the introduction of diseased cows from the city to the farmers' herds.

The provisions of the Dominion Contagious Diseases Act bearing on tuberculosis and similar diseases are very stringent, but in practice, so far as this particular disease goes, they are a dead letter. The presence of tubercles in some part of the animal, as indicated by reaction on testing, is no proof that either its milk or meat is unfit for human consumption. If the udder itself is not affected, the milk is presumably wholesome, and the presence of tubercles in the meat may be slight and local. But the test affords strong evidence that the animal so reacting is in great need of being looked after. To sell a reacting cow to a farmer may, if she is a bad case, be a means of spreading contagion among previously healthy stock and ought not to be permitted.

We would suggest that a reacting cow should be valued at a moderate price, taken to a special farm, where she could be fed for beef, and killed under proper inspection, the inspector to decide how much or how little of the carcass is fit for human food, and the loss in value adjusted and paid for out of the public treasury. If the public health requires the protection of tests for milk and meat the public should be prepared to pay fair value for such protection, and not make the dairyman the scapegoat.

ANOTHER LANDMARK.

In a new country such as our own there are always a few outstanding points of history that indicate just where some big step in advance has been made that has told effectually on the future advancement of the country. The Red River steamboat that, starting at Moorhead, superseded the Red River cart—the extension of the St. Paul R. R. to Emerson that connected us with the outside world by the best modern method—the all-Canadian route, which has become one of the

world's greatest highways, are all such landmarks. In production, the varied steps are not so distinctly marked, but statistics go to prove that if less definitely marked, our progress has been sure and by no means tardy.

A most important landmark in the progressive development of our stock industry is the erection of the Winnipeg Abattoir, whose inauguration has just taken place in the form of a banquet given by the owners, Messrs. Gordon, Ironside & Fares, to the leading citizens of Winnipeg and the Northwest. This abattoir, fitted as it is, with the very best and most modern appliances known to American inventive genius, has from the very start every prognostic of assured success. The splendid stock ranges of the west are being rapidly covered with well bred and intelligently handled cattle. Manitoba is bound to enlarge at a rapidly progressive rate her stall-fed production, and there is now no known hindrance to the productive powers of those wide areas of choice feeding grounds.

The establishment itself is in the hands of men widely known for their energy, integrity, resourcefulness and business experience. If good wishes and generous appreciation are worth anything as a motive power, this institution is bound to prosper exceedingly. Not only is it a great thing for Winnipeg and the west, but it places Canada abreast in opportunity with the very foremost of her rivals in the same line of business. This is no mere speculative venture, but an obvious necessity for the due and profitable development of our important stock industries. It has come just when it was wanted, is in the right hands, with a good business field open all the way from the Klondyke to the centre of Europe. The building is ample for a large business, which will be managed with skill, prudence, and vigorous but conservative enterprise, to which The Nor'-West Farmer joins with those who have already had their say in wishing all the success it deserves.

—The trouble with most farmers is they are eternally taking from the soil and never adding to it. Men have been divided into three classes—the retrograde, the stationary, and the progressive. In nature there are only two classes, the retrograde and the progressive. We think, therefore, that there are only two classes of men—the retrograde and the progressive. To which class do you belong?

THE PRICE OF WHEAT.

The farmers of Manitoba have reason to feel proud of the excellent crop report for this year. The all-absorbing topic now is the price, and this is governed very largely by the supply of wheat the world over. The statisticians of Europe and America have estimated the world's crop of wheat for 1898 at from 2,500,000,000 to 2,600,000,000 bushels. When we remember that the banner crop so far was that of 1894, when 2,541,000,000 were grown, the fact is plain to us that there are prospects for a period of low prices. There are, however, always two sides to a question. To offset this there are a few encouraging features of the world's wheat supply. Broomhall estimates the reserves of wheat on August 1 at 112,000,000 bushels as compared with 168,000,000 in 1897, 240,000,000 in 1896, 296,000,000 in 1895, a steady and marked decrease since 1894. He also estimates that the consumption of breadstuffs during the coming year should be 2,552,000,000 bushels, or very close to the amount produced this year. August generally brings in a large amount of new winter wheat, but the receipts from primary points have been phenomenally small. Millers are stocking up their reserves, farmers are holding for higher prices. Many farmers always hold a large supply of wheat, only selling when prices are high. Then there is the famine in Russia; just how that will affect the wheat exports is hard to say. If the crop is a small one there will be very little for export. Altogether, then, the prospects for good prices are just as good, if not better, than for low ones. So sanguine are some people that they have been strongly urging farmers to hold and not be in a hurry to sell their wheat.

SOUND FORECAST.

On the 24th of August, 1897, C. A. Pillsbury, of Minneapolis, publicly said: "I make the prediction that the average price of choice milling wheat will be above a dollar a bushel in Minneapolis for the year to come, and, after the rush of the first farmers' deliveries, there will be plenty of opportunity for every farmer in this state who has genuine number one northern wheat to obtain a dollar a bushel for it at his nearest country elevator." The Northwestern Miller has regularly published this prediction every week since, not always with much reliance on the forecast. It now shows that the average price for the year of No. 1 northern wheat was 97½ cents, and if "choice milling wheat" means a grade above that, the prophecy has come true to the last cent, and the prophet has come out triumphantly. Whatever may have been the fate of the speculator, it is clearly to be noted that the farmer had a sure thing of it.

MISSION WORK IN ENGLAND.

Hon. Sydney Fisher, Minister of Agriculture, and his very capable right hand man, Prof. Robertson, have been spending a few weeks in the old country doing mission work along the lines of trade and commerce. They have interviewed leading business men and newspapers in some of the principal cities of England and Scotland, and have in this and other ways done much to demonstrate the value of Canadian products and the pains taken to keep the quality up to the highest pitch of excellence. Of course our wheat sells itself, and our flour has no superior, but even in flour we have keen competitors in the mills of Minneapolis. Prof. Robertson is spending most of his time and ef-

fort in drawing attention to the quality of our dairy products and to the fruit of the eastern provinces. The certainty that the dairy produce of Canada is free from adulteration and other unwholesome ingredients is made a strong point in these interviews, and the means taken by government, such as experiment stations, inspection of dairy factories and their products, are fully explained. There can be no doubt that in the course followed by these gentlemen, correct knowledge about the resources and capabilities of Canada will be spread among the British public.

Besides making known to the people of Great Britain the superiority of Canadian products, Prof. Robertson is also studying the demands at the market end of our Canadian products. He is trying to find out where and how we can improve our products so that we may thereby be in a better position to cater to the wants of the consumers of the British Isles. In this the government are making commendable efforts to assist the farmers of Canada.

FARMERS SHIPPING WHEAT.

No doubt quite a number of farmers will avail themselves of the privilege of shipping wheat direct on the cars. To such the following suggestions will be of special benefit. They are part of a circular sent out by W. C. Graham, commission agent, Grain Exchange, Winnipeg, Man. —

When ordering a car be prepared, if necessary, to load it in one day, and give the railroad definite instructions as to when you require the car. See that each car is perfectly sound before loading, that all doors fit perfectly tight, and that it is sealed by the agent. This to avoid leakages. If your wheat is very dirty do not ship it without cleaning, as the cleaning charges, amount cleaned out, and freight on the same may make the returns unsatisfactory. If your wheat is out of condition do not ship until you forward a sample and receive instructions. It will always pay to ship sound clean wheat if in good condition.

Always have your bills made out to your own order or that of your bank, thus: "Order of John Smith, Fort William, etc." If you were forwarding your wheat for me to handle, ship as instructed above, endorse your name in ink on the back of the Bill of Lading and write on the face of the Bill of Lading "Advise W. C. Graham, Box 218, Winnipeg." If you want your wheat inspected at Winnipeg, write on the front of the Bill "To be inspected at Winnipeg." This is necessary if you should want an advance on your wheat before it arrives at Fort William.

The charges at Fort William are: Floating ¾c. per bush., including 15 days' storage. Storage, ½c. per bush. each succeeding 30 days or part thereof. Cleaning, ¼c. per bush.; (you are only credited with net amount of clean wheat. This charge only occurs when the wheat is too dirty to grade.) Inspection 40c. per car.

If I should quote you a price afloat at Fort William, it means that you deduct the following charges to find the net price to you: Floating, ¾c.; freight from your station (the new C. P. R. rate is 1½c. per 100 lbs. less than last year from all stations); cleaning charges (if dirty); inspection 40c. per car; and my commission of ½c. per bushel clear. Beside these charges I always pay an agent at Fort William 25c. per car, which I find is money well spent, as the grading of each car is carefully watched and I always get satisfaction.

As an illustration, say price is 80c. afloat at Fort William. Deduct:—
Floating charges, ¾c. per bush.



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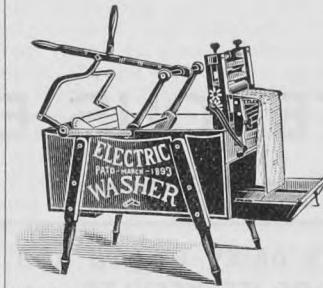
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Freight (if from Brandon) 17½c. per 100 lbs., or 10½c. per bush. Commission, ½c. per bush. Inspection Ft. Wm., 40c.; car agent, 25c., about 1-10c. per bush. Total charges, 11.85c. per bush. Net price, 68.15c. per bush.

If you had the wheat inspected at Winnipeg it would cost you 40c. per car more. If you held the wheat for a time and had received an advance, you would also pay interest, 7% on advance; insurance at regular rates, and storage if in Fort William elevator more than 15 days.

These instructions explain what are the necessary steps in shipping wheat, either on your own responsibility or if entrusted to a commission house. When grain is to be stored in an elevator it is always a wise plan to keep a sample of each load, so that when the grain is shipped out you may be sure you are receiving the same grade of grain that you delivered. When storing grain in an elevator it is not wise to accept an elevator ticket marked "Non-negotiable" or "Non-transferable," or "Non-official," because if you do you cannot sell without the permission of the elevator people, and there is danger that they may compel you to sell when you do not want to.

EDITORIAL NOTES.

—Latest advices from Minneapolis show that there is a strong demand for senna root, much in excess of the supply, and prices are ½ cent a pound higher.

—The parliamentary committee appointed to inquire into the question of national wheat stores reports that it is profoundly impressed with the importance of government wheat stores as an essential item for the national defence, and recommended the appointment of a naval commission to deal with the matter.

—This has been a specially favorable season for fall vegetables, and the fall fairs should make a splendid display of all sorts of field and garden produce. In 1887 we had a free growing fall and the quality of the Manitoba exhibits made that year at Toronto and Ottawa made a sensation among eastern producers.

—Agricultural societies should note the fact that the societies at Fort Qu'Appelle, Qu'Appelle and Indian Head have united to form one good show, to be held at alternate points. This is a wise arrangement, and where towns are not situated too far apart could with advantage be adopted in Manitoba.

—Advices from Russia show a very deficient crop in some of the central provinces. Crops have in many cases been poor, and insect pests have also done great damage. Rains in Poland have destroyed a great proportion of both the hay and grain. It is also reported that Germany will have a very short crop. If this is correct, it may be sound policy to sell only in moderation at present quotations for wheat.

—There could hardly be a better illustration of the varied ideals of quality in every line of live stock than lifelike photos of the prize-winning animals, perhaps also of the stock parades and so-called attractions at our best fairs. The illustrations in our own columns are not only of present interest, but of permanent historical value, for we are careful to have the pose of each animal so photographed as natural and lifelike as possible.

J. A. Ruddick, Superintendent of the Kingston (Ont.) Dairy School, received

not long ago an offer of the position of Dairy Commissioner for New Zealand. Although the position carries a salary much larger than he is getting at present, Mr. Ruddick refused the offer, preferring to stay here. Canada has supplied quite a number of expert dairymen to other countries at one time and another, and it is gratifying indeed to know that our young men are sought after by other countries.

—It is reported that the Gipsy moth, which has wrought such havoc among trees in the New England States and Eastern Canada, has been seen in the Black Hills, Dakota. Trees were stripped of their foliage, and a scientific observer says the destroyer is this moth. Great sums of money have been spent in the east almost fruitlessly, in the attempt to get rid of it. It got a foothold there by an entomologist allowing a specimen he had bred to escape through the window of his room.

—Ontario has lost one of her most successful breeders of Berkshire swine in the person of Joseph G. Snell, of Snelgrove, who fell a distance of some 28 feet from a ladder in his barn, on Aug. 6th, and died from the injuries received on the 10th. Mr. Snell was 51 years of age, though from his youthful appearance he passed for a much younger man. He was recognized as perhaps the most able breeder of Berkshire swine in Ontario, and always took a most prominent part in the show ring and at conventions.

—At a recent meeting of the Winnipeg city council, the city veterinary inspector submitted a report of tuberculin tests of dairy cows, made between June 8 and August 16, from which it appeared that out of 241 cows tested, a reaction was observed on 103, or 42 per cent. Of those reacting, 72 head had previously been tested. The remaining 31 were bought from farmers in the surrounding country and had not before been tested. This is a most serious state of affairs, and it is time that something was done in the matter.

—The colony of Jews, started by means of the Baron Hirsch fund, about twenty miles east of Estevan, Assa, at Hirsch Station, are reported to be progressing very well. Crops have done well, and it is estimated that there will be at least 10,000 bushels of grain to ship from the colony this fall. It has been said that the Jews would not make suitable agriculturists, but a fairly successful colony of farmers is springing up. It remains to be seen how long they will stick to the land. The colony was recently visited by a cyclone and a number of buildings wrecked but no people killed.

—A new route will compete for western grain this year. The Canada Atlantic railway, between Coteau Landing and Parry Sound, is now in running order and prepared to handle the fall grain trade. Excellent boat connection has been made from Duluth and Fort William to Parry Sound. The distance from Fort William to Parry Sound is much less than to Buffalo, and the distance from Parry Sound to Montreal is less than from Buffalo to New York. This should be an advantage to the Canadian route, and should make the Canada Atlantic a strong factor in the grain trade this fall.

—The Northwestern Grass Twine Co., of Oshkosh, Wis., made a trial of their grass twine at Kildonan lately. It worked most satisfactorily, and every one who saw the twine and the way it worked on the machine was well pleased with it. The manufacturers claim that it can be made and sold for one-third to one-half less money, yard for yard, than either manilla or sisal twine. The farmers who have used it on the other side are loud in its praises. If sufficient inducement offers, a factory will be established at Winnipeg to supply Canada. The twine will be made out of Manitoba grass.

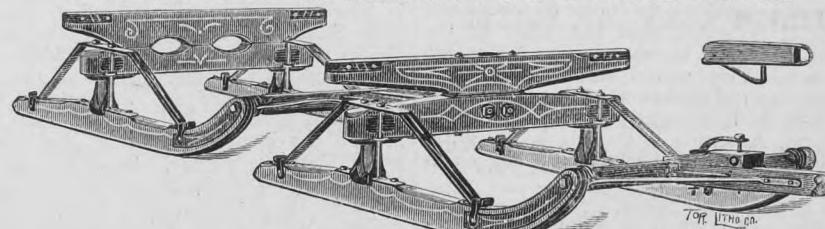
—The agreement made by the government with the C. P. R. in the Crow's Nest Railway deal called for certain reductions in the freight rates in return for concessions granted the company by the government. One of these reductions called for was to have gone into effect the 1st of September, but it was put into force some time before that. This is a reduction of 1½ cents per 100 lbs. on grain, flour, etc., from Manitoba and Territorial points to Fort William. The Manitoba & Northwestern Railway have reduced their freight rates to Fort William in correspondence with the reduction made by the C. P. R.

—The Department of Agriculture has been wise in its choice of a Fruit Commissioner to the Paris Exposition of 1900. No better man could have been chosen than A. McD. Allan, of Goderich, Ont. All his life long he has been studying fruit and its culture, both theoretically and practically. In 1886 he was the Fruit Commissioner to the London Colonial Exhibition and did the country an immense amount of service in opening up fruit markets. Mr. Allan has done good work in Ontario as president and director of the Provincial Fruit Growers' Association, and also in other parts of the Dominion.

—Wm. Lochhead, B. A., late science master of the London Collegiate Institute, has been appointed to the chair of biology at the Ontario Agricultural Col-

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lege, Guelph, which was made vacant by the death of the late Prof. Panton. Mr. Lochhead is an honor graduate of McGill of 1885, and took his Master of Science degree in 1895 from Cornell University. He has also been an active member of the Entomological Society of Ontario. An assistant biologist has been appointed in the person of W. M. Doherty, B.S.A., a graduate of the Agricultural College in 1895. Mr. Doherty has also taken a special course at Cornell University since graduating.

The United States is a wonderful country and peopled with an equally wonderful people. They do things that no other people would think of. The latest eccentricity is a move to help the unfortunate Joseph Leiter. It is reported that a movement has been started in Harvey county, Kan., to establish a "relief fund" for him as a token of appreciation of his success in raising the price of wheat last year, whereby the farmers of Kansas profited to the extent of several million dollars. The scheme is to donate one cent a bushel of the price of all wheat sold out of this year's crop, the sum to be deposited to the credit of Mr. Leiter in a Chicago bank. What will the "Yankees" do next?

Mr. Thomas Murray, one of the executive engineers of the Victorian Government water supply department, reporting officially on the actual effects of irrigation, declares that as much as 32 bushels of wheat have been grown on irrigated land and 60 bushels of oats raised to the acre. Further, it appears that the cost of thus irrigating the land fertilized in this manner proved to be only 50 cents per acre. It is stated that the value of the wheat crop may be put at from \$25 to \$40 per acre. This would seem to open out a very cheerful prospect to the farmers on the arid and drought-plagued regions of Victoria, Australia. Canada is not without lands that would yield profitable crops if they could be irrigated.

The city council of Winnipeg has recently approved of a by-law calling for wide tires on all wagons used on the city streets. Wagons carrying 2,000 lbs. must have tires 3½ inches in width, while those carrying 4,000 lbs. must have tires not less than 4½ inches in width. This is a move in the right direction. Experiment has demonstrated time and again that wide tires are easier on the road and team,

with the exception of about one condition, than the narrow ones. The conditions of that one exception only last a short time, and the difference then in favor of the narrow tires is not as great as the difference in favor of broad tires on the conditions which prevail the greater part of the year. There should be more broad tires used.

The directors of the Winnipeg Exhibiton are to be congratulated on the excellent showing that the fair of 1898 makes. The report of the finance committee is as follows: "After having made as careful an estimate as it is possible to do at the present time, your committee beg to report that the total estimated receipts for the year, including the balance of \$3,507.35, will amount to \$49,725, and the total estimated disbursements to Oct. 31st to \$48,028, leaving a balance of \$1,697 to begin operations with next season. It is to be borne in mind, however, that, included in the sum above quoted for disbursements, is an item of \$9,326, \$8,726 of which has been expended by the association in permanent improvements to the city property and providing also for the instalment of \$600 due last May on account of sinking fund." The receipts of the fair have increased 300 per cent. in three years. The returns from the railways show that 18,000 people came to the city; of these 7,000 came from the U. S.

One of America's philosophers of a generation ago said, "We must educate or we must perish." And he spoke truly. The enlightened nations lead the world and rule it. The helplessness of the unenlightened nations before the enlightened is now again being illustrated in the war with Spain. A nation which, like Spain, skulks in the darkness of the middle ages and clings to the superstitions of the past may borrow money and buy modern warships and weapons, but after all that, with her 80 per cent. of illiteracy she cannot stand before a people educated in public schools. This thought applies with great force to the farmer. New and successful methods of farming are constantly being introduced, and it is becoming more and more a matter of necessity that a farmer should have a good education. The rapid interchange of goods from one part of the world to another brings the farmer of Manitoba into direct competition with the farmer of almost every country in the world. The struggle is for supremacy. The farmer with the poorest education

will be beaten in this struggle just as surely as the Spaniards were in the war with the United States. The farmer who keeps abreast of the advancement made in agriculture is the man who will succeed.

Dairy Markets.

Montreal market, reported by A. W. Grant, Sept. 3rd. Cheese market dull but firm, 7½ to 8½. Butter, finest creamery, 17½ to 18½. Sept. 5th, cheese dull but firm, 7c. to 8½c.; butter, finest creamery, firmer at 17c. to 18½c. Sept. 6th, cheese quiet, 7½c. to 8½c.; butter, finest creamery, quiet at 17c. to 18½c.

Vancouver, Sept. 6th. — Butter, Manitoba creamery, 17½c. to 18c. f.o.b.; dairy, 13c. to 13½c. f.o.b.; cheese, 8c.; Ontario, plus freight.

Local wholesale grocery houses state they can buy Ontario cheese for a fraction less than Manitoba. They also state that Manitoba factories are holding for higher figures.

Local dealers state that creameries are holding for higher figures than 18c. and 18½c., which the outside market does not warrant them in paying. They state that there is still a tendency to hold on the part of creamery men.

Edward Vance, the well-known breeder of Dorset sheep, died at Emerson of cancer on Aug. 31. He settled at West Lynne in 1879.

Alexander & Co. are introducing to the farmers of Manitoba a medicine chest that has had a very successful sale in Great Britain, and should have here as well. Every stockman should have a supply of medicine on hand ready for use whenever needed. Few farmers have a supply, and if they had, have not a suitable place to keep them. This firm are placing on the market a neat wooden case, containing a large number of medicines, all of which have been found very useful on the farm. Each medicine has with it full directions as to the quantity to give and how to give it, etc. The case makes a very suitable place in which to keep the medicine. In fact, all medicines for stock could be kept in it; then there would always be a place for them. We feel sure farmers will appreciate the convenience of this medicine chest, and that to see it will only be to want it.



Moult Time.

This is the time of the year that hens require particularly good attention. Exhausted by the season's work, they are resting and putting on a new coating of feathers preparatory to beginning another season's work. Too many flocks of hens quit laying for some time before moulting. This is not necessary, because there are hens that lay right up to moulting time, moult quickly and are soon ready for work again. If the hens have been well fed right along they will not take nearly so long to moult, but will begin laying again in a short time. If the hens have been allowed to pick up their own living from grass and other green feeds only, they will not be in a condition to moult quickly; because this is too bulky a food and they have to consume too large an amount of it to get the necessary material for the renewing of their feathers. By feeding a little grain and some meat scraps, the necessary elements for a rapid growth of feathers will be supplied and the hens put in condition for early laying. The best layers often take the longest time to moult because the most run down. Pick out the birds that moult early and that recuperate quickly. These will be the birds to breed from, if good layers as well. As a matter of profit it will pay to give the hens a little extra attention so as to get them in condition for early winter laying. Plenty of bone-forming material should be fed so as to develop the feathers as quickly as possible.

Skim Milk for Chickens.

The Indiana Experiment Station conducted an experiment with two lots of growing chickens recently, with the object of studying the effect of skim-milk upon their diet. There were ten chickens of two breeds in each lot, ranging from four to six weeks of age at the beginning of the experiment. Each lot received the same food, care and treatment, excepting that one was fed all the skim-milk wanted while the other was given none. The grain fed consisted of two parts crushed corn, one part bran and one part ground oats. They were also fed cracked bone, cabbage and lettuce. When the experiment began the total weight of one lot of chickens was only one-half an ounce more than the other. The experiment lasted for eight weeks.

The result of the experiment shows skim-milk to be a good food. The chickens fed milk and grain ate a little more grain than those fed grain only, but they made a more rapid and uniform gain also. The lot receiving no milk made an average weekly gain of 2.62 ounces, while those receiving milk made a weekly average gain of 4.46 ounces, or over a quarter of a pound. In other words, feeding milk produced 70 per cent. more gain.

Skim milk as a food contains muscle and flesh-forming material in a form readily taken up by the system. We know it is just the thing for growing strong, well-developed calves and pigs, and now this experiment shows that it is a good food for growing chickens. Much the same kind of material that is required to grow chickens is also required to make eggs; therefore, skim milk will be found

an excellent feed for hens for producing eggs. Care must be taken in feeding the milk to keep the vessel containing it clean. It should be washed and scalded every day. A little attention to this will make the feeding of milk, to either chickens or hens, a source of profit.

Raising Ducks Without Water.

A great many people think that it is necessary to have a pond before ducks can be handled successfully. Such is not the case. The water is only a means for the duck in its wild state to get its food. From the water they get a great many water animals, but if this kind of food is supplied to them, all the water they need is enough to drink. For young ducks it is better to have sufficient water for them, so that they can bathe their heads so as to wash their eyes, so that their eyelids may not get stuck together. Old ducks can be kept most profitably without any run to water. All they require is a dish with water in it deep enough so that they can keep their nostrils clean. It can be protected so that they cannot get into it. If, however, a pond is convenient, let them have access to it, but it is not an essential feature in duck-raising. This may be news to some, but it is nevertheless true. Properly cared for, ducks can be made as profitable as any other kind of poultry.

Be careful how the new grain is fed. It is liable to produce cases of what you will probably call cholera.

In the prize list for fowls at the Brandon fair the first prize in Buff Cochins, Class 34, was awarded to F. D. Blakely, Winnipeg. By an error this was omitted from the list given in last issue.

For quickness of growth the young chick is not in it with the duckling, but they should be hatched early to catch the high prices. It will not pay to raise late ducklings for market any more than it will late chicks. With both it is the early ones that bring the largest profits.

If the male bird is still with the flock, take him away, even if you have to make a separate run for him. If it is intended to use him again next season he will pay you well for the extra care and the hens will moult better and do better if kept by themselves till mated for another season.

Here is a ration for a flock of twenty-five Leghorn hens when they have full range of the farm. Give them once a day, at night, the following mixture: Ground oats, 4 parts; linseed meal, 1 part; ground meat, 1 part, and bran, 2 parts; mix with milk or water, and give of a somewhat dry, crumbly condition, allowing one and a half pounds of the mixture, after it is moistened, to the twenty-five fowls. During dry weather add a teaspoonful of sulphur, also add enough salt to season the food.

Farmers, wake up. Read what an exchange says: "About one-third of all the poultry in this country is owned in cities, towns and villages, and it may be added that town people nearly always keep pure breeds, and know as much about raising poultry as farmers." No one is in a better position than a farmer to handle poultry successfully. He has all the food they require at first cost, because grown on the farm. All the vegetable matter they require during the winter can also be grown on the farm and saved at small expense. If poultry don't pay on the farm it is not their fault. It is without doubt the fault of their owners, give them a chance, and they will be found the biggest money-makers on the farm. If you are not going to look after them, give the boys and girls a chance, and encourage them to take hold of it.

H. A. CHADWICK,

ST. JAMES, MANITOBA.



Light Brahmans, Barred Plymouth Rocks, Black Langshans, Guinea Fowls, and Black African Bantams, Fowls for sale of each variety. My birds are too well-known as prize-winners to call forth further comment. Write for what you want. Telephone connection with Winnipeg. German Canaries for sale, good singers. Also four or five pure bred sable colored Collie Pups. Right age for training. Beauties.

2170

Louise Bridge Poultry Yards

Are still headquarters for the leading strains of S. and R. C. W. Leghorns, White Wyandottes, and Black Spanish. I have on hand about 400 head of young stock, and to make room for them I am now offering the bulk of my choice breeding stock for sale in pairs, trios or breeding pens, at low prices, quality considered.

Young stock for sale in fall.

ADDRESS—

GEORGE WOOD, Louise Bridge P.O., Winnipeg, Man.

Oak Grove Poultry Yards,

LOUISE BRIDGE P.O., WINNIPEG, MAN.

50 pairs of young Pekin Ducks from imported and prize-winning stock, at from \$3.00 to \$4.00 per pair.

100 pairs of young Bronze Turkeys, after Sept 15, from \$4.00 to \$6.00 per pair. From prize stock. I also have young stock of different breeds for sale. Write.

Address—CHAS. MIDWINTER,
Louise Bridge P.O., Winnipeg.

BLACK MINORCAS

J. DENNER & SON, 295 Fountain St., Winnipeg, Breeders of high-class Minorcas, will this season breed from two pens.

No. 1 Pen—headed by brother to the winner of New York Show, 1897, mated to pullets imported direct from Pitts, of England, winner at the Crystal Palace.

No. 2 Pen—Pitts' cockerel and Duff's and Roberts' hens. A limited number of Eggs for setting will be sold from these two pens.

2246

BUFF COCHINS.

Chicks from my prize-winning pens at reasonable prices, either cockerels, pairs, trios or pens properly mated. These birds took first prize at Winnipeg Industrial and Brandon this year in both the aged and chicken classes.

F. D. BLAKELY,
285 Ellen St., Winnipeg.

EGGS IN WINTER.

Yes, that's what you want.
To get plenty of them, feed

Green Cut Bone and Ground Oyster Shells.

Supplied at close prices. Also a dozen pair fine young PEKIN DUCKS for sale. Write for particulars to R. DOLBEAR, 1238 Main St., Winnipeg.

TO CURE A COLD IN ONE DAY,

Take Laxative Bromo-Quinine Tablets. All Drugists refund the money if it fails to cure. 25c. [2250]

When writing, mention The Farmer.

Toronto Industrial.

The exhibition was formally opened by Sir Oliver Mowat, the Lt.-Governor. This exhibition has been making steady growth, year by year, for twenty years, and to-day it is, without doubt, the largest and best annual exhibition on the continent—some say in the world. If the attendance the first week of the exhibition is an index of what it will be during the second week, then the attendance of visitors this year promises to be the largest ever seen there. On one day of the first week \$5,000 more was taken at the gates than on any previous day of other years. The directors are laying plans for an exhibition on an enlarged scale and somewhat of an international character to celebrate the opening of the 20th century. This will embrace special buildings and exhibits from all the provinces, with representatives from each on the executive committee.

The display of machinery and farm products is very large and complete. The entries in the stock classes are very large also, many new exhibitors being forward with good cattle. The live stock have suffered a great deal with the heat, for it has been exceptionally hot at Toronto. On Sept. 1st, 30 head of fowl and 9 hogs died from the effects of the heat. At the time The Farmer went to press all the results of the judging had not reached us. In Holsteins our readers will be pleased to know that G. W. Clemons, who judged the dairy breeds at Winnipeg, was very successful, having the sweepstakes bull and the first prize herd. A. & G. Rice, Currie's, Ont., had the second prize herd and a number of good first prize animals. C. J. Gilroy & Son, Ellis Bros., and J. Rettie were other successful exhibitors.

In Ayrshires, Robt. Reford, Ste. Anne's de Bellevue, was a very successful exhibitor. He had the best bull and best two-year-old bull, a number of first prize females, the best four animals, the progeny of one bull all bred and raised by the exhibitor, and the best four calves, bred and owned by one exhibitor. D. Drummond, Petite Côte, besides winning a number of good prizes, secured the herd prize. J. N. Greenshields had the best female any age, and other prizes. Other winners are W. Stewart & Son, Robt. Davies, James McCormack, N. Dymont, Alex. Hume & Co., W. M. Smith.

In Jerseys, Miller & Sibley, the noted breeders from Franklin, P., U. S., were again successful competitors, getting a number of first prizes, especially for females, the first prize for four animals the progeny of one bull, and the herd of four calves. W. E. H. Massey secured the aged herd prize. B. H. Bell & Son had the best bull any age. E. N. Fleming the best female any age. Other winners are R. Davies, J. H. Smith & Son, R. B. Smith, D. G. Hanmer & Sons, R. Gibson, and S. Weeks.

In Guernseys the contest lay between J. N. Greenshields, Danville, Que., and Wm. Butler & Sons, Dereham Centre, Ont. Greenshields obtained the herd prize and had the best bull and female.

Fifty dollars in sweepstakes will be offered for fat cattle at the Davisburg, Alta., fall fair.

Chas. Braithwaite, provincial weed inspector, is busy putting up in the elevators placards, on which are printed the clauses of the Noxious Weed Act relating to elevators.

At the recent annual sale of the Lincoln sheep bred by the world famed breeder, H. Dudding, of Riby Grove, Eng., the very fancy price of \$5,250 was paid for one ram to go to Buenos Ayres. The average for 52 rams sold was \$435.



Ontario Crops.

Crops in Ontario have this year been the best seen there for many a year. The hay crop has been an unusually large one. The estimate is a yield of 1.79 tons per acre, or an increase of 587,545 tons over last year and an increase of 1,000,000 tons over the average for the last 16 years. In many places hay turned off three, and occasionally four, tons per acre. Fall wheat shows an average of 24.1 bushels per acre for 1,042,182 acres. The total yield of wheat is this year the largest seen during the last 16 years. The average yield for sixteen years is 18.022 bushels per acre. The sample is also of a very superior milling quality. Spring wheat gives an average of 17.3 bushels per acre. The acreage of barley is steadily declining; average yield this year is 27.5 bushels per acre. Oats promise an average yield of 34.5 bushels per acre. The average of 16 years is 34.4 bushels per acre. Peas are below an average crop, only 18.1 bushels per acre. The average for 16 years is 19.9 bushels per acre. Both field and silo corn show a falling off in acreage, the season has been a very unfavorable one, in fact it is an off season for corn all over the continent, and corn will not be as cheap this fall as it was last. Mangels, carrots, turnips, and especially rape, show a marked increase of acreage. Tobacco perhaps shows the biggest increase, 785 acres in 1897, and 7,871 in 1898, mostly in Essex and Kent. Milch cows show an increase of 25,000 and store cattle a decrease of 20,000. Swine make a remarkable increase from 1,284,963, in 1897, to 1,642,787, in 1898. There is an increase of no less than 325,000 in young swine over last year. Sheep and horses show a very slight decrease. Poultry show a large increase. The crop of fruit will be rather a light one.

Scab in the Wheat.

Bulletin 62 of the Indiana Experiment Station gives an account of a new wheat pest of a fungus nature. Many fields that promised a good yield were suddenly struck with a blight that killed the heads, or parts of them, and rendered the grain worthless. The part of the head affected turns white while the rest is still green. The kernels shrivel and look mouldy. At first it was thought to be the work of insects, but an examination shows it to be caused by a fungus that attacks the head at flowering time. It grows in the flower and soon sends out spores to spread the trouble to other heads throughout the field. The fungus saps the life of the flower and prevents the development of the grain. Looked at carefully, the heads have a pinkish color from the abundance of the slightly colored spores. The disease has been called wheat scab or scales. Nothing can be done to arrest its work once it has made its appearance in a field. At present the best measures against its ravages are the selection of early varieties and hastening the ripening by early seeding.

Corn will be a very light crop this year, both in the U. S. and Canada.

The wheat crop of Minnesota and Dakota is estimated at 189,800,000 bushels.

The agricultural returns for 1897 in Great Britain show that the grass lands of England amount to 16,513,000 acres, and the cultivated land to 16,007,000 acres, a total of 32,520,000 acres, against 32,615,000 in 1896 and 32,712,000 in 1895. The total number of cattle was 6,500,000 and of sheep and lambs 26,341,000.

Crops in the Edmonton district are reported to be in good condition. The dry weather of May and June was hard on the grain. Wheat will be the best crop, though the yield will not be as large as that of last year. Oats are uneven, some of the grain not starting until after the rain on June 20th. Late sown barley is reported to be all right. There is a large increase in the acreage of grain sown. A large amount of breaking has been done, and there will be a much larger acreage sown next year.

FRONTENAC BUGGIES

We ship direct to the people at wholesale prices. If not as represented we buy them back. They are guaranteed. It will pay you to send at once for our catalogue and price list. Crated with care.

H. R. KEYES,
Reliable Farm Supplies,
MIDWAY, MAN

BOOK AGENTS WANTED FOR
the only Official and superbly Illustrated HISTORY OF
OUR WAR WITH SPAIN
ITS CAUSES, INCIDENTS, AND RESULTS. A reliable and exhaustive story of the war, Civil, Military, and Naval, from its beginning to the close. With many fine steel plates, maps, and choice engravings. By HENRY B. RIBBLELL and SETHOR PROCTOR (Vt.) and SETHOR THURSTON (Neb.). One Agent cleared \$2,000.00 in first two weeks, another \$400.00 in three weeks. 1,000 more Agents wanted. Distance no hindrance, for we Pay First. Give Credit, Extra Terms, and Exchange Time to you. Write for terms to the exclusive publishers.
A. D. WORLINGTON & CO., Hartford, Conn.

WINNIPEG BUSINESS COLLEGE.

Write for our new Annual Announcement and College Journal.

Business Practice a special feature of our course.

No entrance examination required. Students may enter any time.

G. W. DONALD, Sec'y.

FARMERS

We are selling a CONDITION POWDER at 25¢ a pound that will fit your horses for spring work and overcome the after effects of fevers, etc. We retail over 100 pounds a week and every one who has used it speaks highly of it.

ARKELL'S DRUG STORE, CARBERRY.

PROVINCIAL LAND SURVEYORS' ASSOCIATION.

Under authority of sections 39, 40 and 41, Cap. 121, R.S.M., the following only are entitled to practice as Provincial Land Surveyors in Manitoba:
Aldous, M., Winnipeg McPhillips, R. C., Winnip'g Bayne, G. A., " McPhillips, Geo., "
Bourne, Robt., " Simpson, G. A., "
Chataway, C. C., " Young, R. E., "
Douce, Joseph, " Francis, J., Poplar Point.
Douce, J. L., " McFadden, M., Neepawa.
Ducker, W. A., " Rombough, M. B., Morden.
Harris, J. W., " Bouchette, C. J., Selkirk W. Lawe, Henry, " Vaughan, L. S., Selkirk, W.

By order,
J. W. HARRIS, Secretary,

P. L. S. Association.

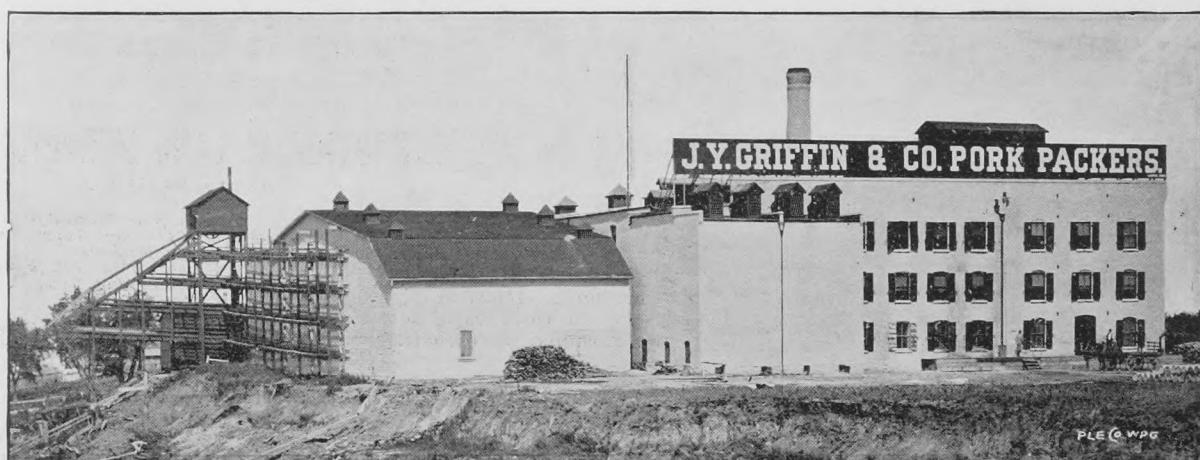
N.B.—The practice of surveying in Manitoba by any other persons is illegal, and renders them liable to prosecution



Twenty-One Binders leaving Oak Lake, Man., for the Harvest Fields.

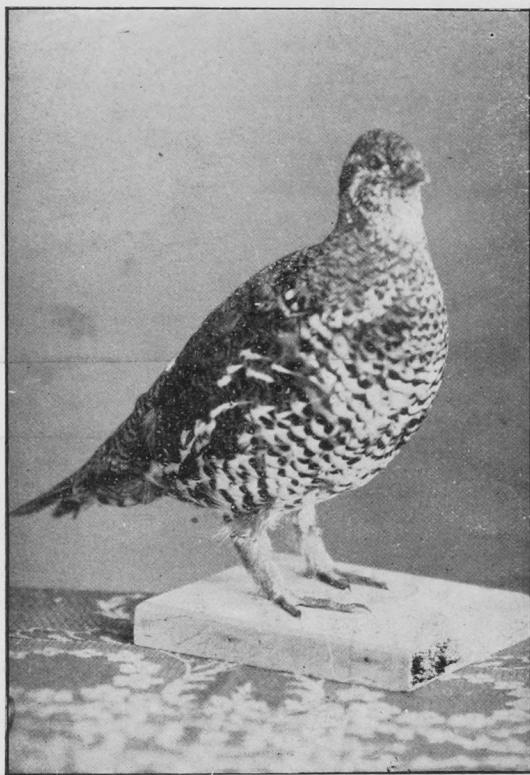


Prize Winners at the Central Assiniboia Fair, held at Qu'Appelle Station last month.



General View of the J. Y. Griffin & Co.'s Pork Packing Establishment, Winnipeg.

Showing the ice house to the left, the smoke houses in the centre and the front of the main building.



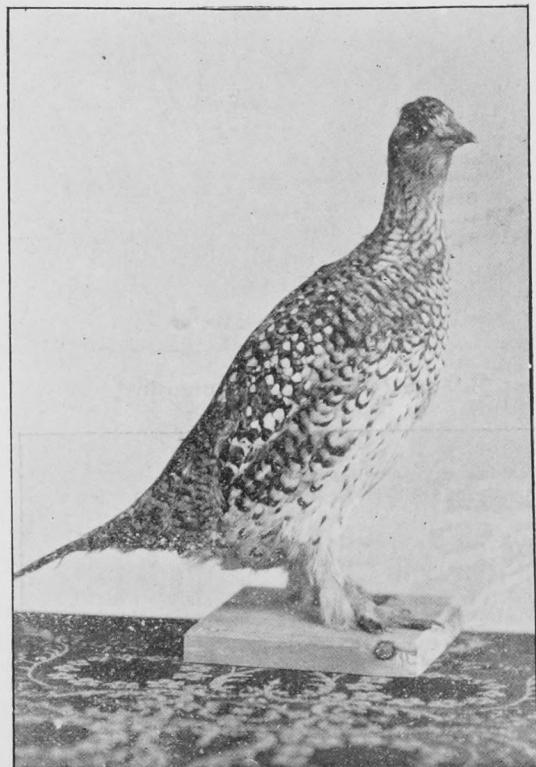
Dendragapus Canadensis.

(Canada Grouse or Spruce Partridge.) Female.



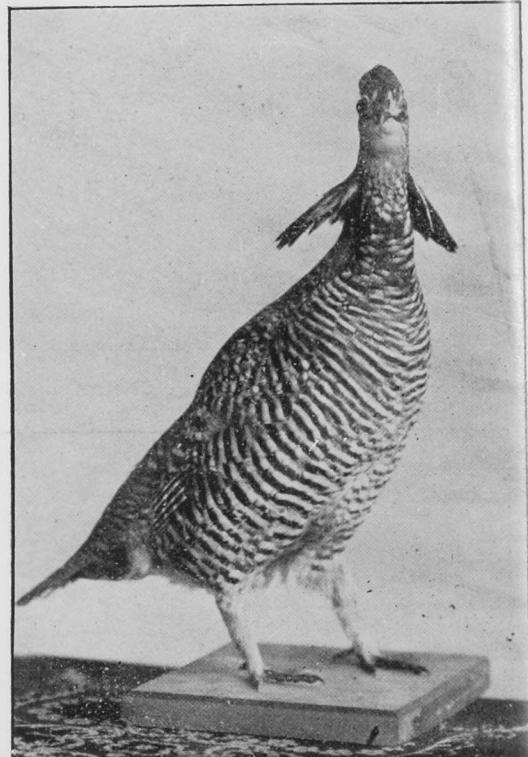
Dendragapus Canadensis.

(Canada Grouse or Spruce Partridge.) Male.



Pediocætes Phasianellus.

(Sharp-tailed Grouse, or Old Manitoba Prairie Chicken.)



Tympanuchus Americanus.

(Pinnated Grouse or New Manitoba Prairie Hen.)

Crop Report for 1898.

Once again the fertile soil of Manitoba has asserted itself and shown a remarkably good crop under very unfavorable conditions. The August crop report recently issued by the Department of Agriculture shows that the expected yield of wheat will be about 17,41 bushels per acre and a total yield of grain of all kinds of nearly 50,000,000 bushels. The estimate last year of wheat was a yield of 21,284,274 bushels. The actual yield, as estimated from the amount of wheat handled by the elevators, etc., was very much larger, being placed at about 25,000,000 bushels. If the estimate this year is as much under the actual yield as it was last year, next spring's returns will show a wheat yield of about 30,000,000 bushels.

No damage has been reported from ravages by insects, with the one exception of the presence of the Rocky Mountain locust in the Turtle Mountain district, and there the damage to the crops has been practically nil. It is also worthy of note that no extensive damage by hail has been reported. In a number of districts small areas have suffered some, but it has not been widespread. Numerous frosts have occurred in various sections, but no damage seems to have been done, or, if any, it has been slight. Weeds, perhaps, have done the crops more harm than anything else. The dry spring allowed these pests to get the start of the grain in many places. It was a season that showed the value of clean summer fallowing.

Perhaps in no year in the history of the province, has the productive nature of our soil been so noted as in the present season. Seeding time was unusually favorable, but for a month or six weeks after seed was sown there was no rainfall. In many fields seed never started to grow until late in June, so that up to the first week in July prospects were far from promising. A change came during the second week in July, when we had hot growing weather, giving the crops really their first good start. From that date to the present the growth has been marvelous. Farmers who have resided in the province for twenty years have from time to time expressed astonishment at the change in the condition of the crops, until to-day the appearance of the crops gives the assurance of a bountiful harvest. The most favored parts of the province are the North Central, the South Central and the Eastern districts. The Southwestern suffered much from want of rain, and never fully recovered. Some fields in that district are failures, others are patchy, and yet good fields may be found even there.

WHEAT.

District.	Area under Crop.	Yield per Acre.	Total Yield.
N. W.	122,600	17.5	2,145,500
S. W.	595,134	13.8	8,212,849
N. C.	305,224	21.1	6,440,226
S. C.	374,614	19.2	7,192,588
Eastern	90,660	21.2	1,921,992

Prov., 1898	1,488,232	17.41	25,913,155
Prov., 1897	1,290,882	16.49	21,284,274

OATS.

District.	Area under Crop.	Yield per Acre.	Total Yield.
N. W.	83,162	32.5	2,702,765
S. W.	168,882	29.4	4,965,130
N. C.	89,155	40.8	3,637,524
S. C.	113,000	38.8	4,384,400
Eastern	60,625	38.6	2,340,125

Prov., 1898	514,824	35.02	18,029,944
Prov., 1897	468,141	26.73	12,517,112

BARLEY.

District.	Area under Crop.	Yield per Acre.	Total Yield.
N. W.	15,400	27.8	428,120
S. W.	32,454	23.6	765,912
N. C.	31,302	32.3	1,011,054
S. C.	51,334	31.3	1,606,754
Eastern	27,568	29.0	799,472

OTHER CEREALS.

District.	Area under Crop.	Yield per Acre.	Total Yield.
Flax, 1898 ..	25,000	14.0	350,000
Flax, 1897 ..	20,653	15.0	309,795
Rye, 1898 ...	3,198	25.0	79,950
Rye, 1897 ...	2,975	18.5	55,037
Peas, 1898 ..	1,594	21.0	33,474
Peas, 1897 ..	1,669	23.0	38,387

Estimated total grain crop of the province for 1898 49,017,837
Estimated total grain crop of the province for 1897 37,849,373

HAY.

It was generally feared that hay would be light this year. Those who cut early missed it, for after the rains the grass sprung up quickly and an exceeding good cut of hay has been made.

Approximate Yield Per Acre.

	Prairie Hay.	Cultivated Grasses.
N. W.	1.5 tons	2.0 tons
S. W.	1.1 tons	1.25 tons
N. C.	1.4 tons	1.4 tons
S. C.	1.4 tons	1.6 tons
Eastern	1.4 tons	1.3 tons

Province 1.4 tons 1.5 tons

BREAKING AND SUMMER FALLOW.

District.	Breaking.	Summer Fallowing.
N. W.	17,480	28,025
S. W.	57,105	121,365
N. C.	15,280	51,360
S. C.	28,880	47,600
Eastern	16,160	20,480

Province 134,905 268,830

LIVE STOCK.

The condition of live stock in all parts of the province is generally reported as "good," "first-class," "never better," "fair," "all A 1." Although quite a number report horses, especially working horses, as "only fair," and generally thin for want of feed, as oats were scarce and dear this spring. The most favorable reports come from the northwestern district.

New Industry of Manitoba.**THE BRANDON FELT FACTORY****MANUFACTURING**

Felt of all kinds from pure Manitoba Wools, Sole & Upper Stock, Polishing and Saddlers' Felt, Lap Rugs and Horse Blankets, Wool Filled Bed Quilts, Felt Boots, Shoes, Etc., Etc.

Our Special line of Felt Shoes, with rubber sole securely cemented on to the ordinary felt sole, is pronounced by all to be the goods long looked for. The rubber keeps the sole dry, adding to the wear, and being corrugated, never slips, is especially prized by curlers, farmers and others who have to go in and about stables.

Our untearable horse blankets and lap rugs are made of a new fabric, stronger than any other material of twice its weight. See our sweat pads and saddle cloths.

For prices and particulars, kindly address—

FRED H. HESSON, Manager. **SENKBEIL BROS., Proprietors.**

BRANDON, MANITOBA.

The Veterinary Association of Manitoba

Under the authority of Secs. 18, 19, 20, 22 and 26 of the Veterinary Association Act, 1890 (53 Vic., Chap. 60) the following persons ONLY are entitled to practice as Veterinary Surgeons in the Province of Manitoba or to collect fees for service rendered as such:

Atkinson, John C.	Winnipeg.
Alton, A. L.	McGregor.
Alton, W. W.	Souris.
Baker, G. P.	Russell.
Braund, F. J.	McGregor.
Coote, H. L.	Minnedosa.
Cox, S. A.	Brandon.
Dann, J.	Deloraine.
Dunbar, W. A.	Winnipeg.
Fisher, J. F.	Brandon.
Fowler, James.	Souris.
Graham, N.	Dauphin.
Green, Enoch	Birtle.
Hatton, J.	Alexander.
Henderson, W. L.	Carberry.
Hinman, W. J.	Winnipeg.
Hilliard, W. A.	Minnedosa.
Hilton, Geo.	Portage la Prairie.
Hopkins, A. G.	Neepawa.
Harrison, Walter	Glenboro.
Hurt, W. N. J.	Birtle.
Irwin, J. J.	Stonewall.
Lake, W. H.	Miami.
Leslie, Wm.	Melita.
Little, C.	Winnipeg.
Little, M.	Pilot Mound.
Little, William	Boissevain.
Lipsett, R. C.	Carberry.
Lipsett, J. H.	Carberry.
Livingstone, A. M.	Melita.
Martin, W. E.	Winnipeg.
McDonald, J. D.	Oak Lake.
McFadden, D. H.	Emerson.
McGillivray, J.	Manitou.
McKenzie, G. A.	Neepawa.
McLoughry, R. A.	Mooseomin.
McMillan, A.	Virden.
Monteith, R. E.	Killarney.
Murray, G. P.	Winnipeg.
Nagle, J. W.	Morden.
Reid, D. S.	Hartney.
Robinson, Peter E.	Emerson.
Roe, J. S.	Neepawa.
Rombough, M. B.	Morden.
Rowcroft, S. V.	Birtle.
Rutherford, J. G.	Portage la Prairie.
Sankey, Chas. A.	Boissevain.
Smith, H. D.	Winnipeg.
Spiers, John	Virden.
Shouts, W. A.	Gladstone.
Smith, W. H.	Carman.
Snider, J. H.	Virden.
Stevenson, Jas. A.	Carman.
Swenerton, W.	Portage la Prairie.
Thompson, S. J.	Carberry.
Torrance, F.	Winnipeg.
Taylor, W. R.	Portage la Prairie.
Waldon, Thos.	Killarney.
Walker, John St. Clair	Sheppardville.
Welch, John	Roland.
Whimster, Murdo	Hamota.
Williamson, Arthur E.	Morris.
Young, M.	Manitou.

The practice of the veterinary profession in Manitoba by any other person is in direct contravention of the statute and renders him liable for prosecution.

W. A. DUNBAR, REGISTRAR.
(1587F)

DR. BARNARDO'S HOME.

The managers of these institutions invite applications from farmers and others for boys and youths who are being sent out periodically, after careful training in English homes. The older boys remain for a period of one year at the Farm Home at Russell, during which time they receive practical instruction in general farm work before being placed in situations. Boys from eleven to thirteen are placed from the distributing home in Winnipeg. Applications for younger boys should be addressed to the Resident Superintendent—115 Pacific Avenue, Winnipeg, or P. O. Box, 970—and for older boys, possessing experience in farm work, to Manager, Dr. Barnardo's Farm Home, Barnardo, Man. [1927]



Brandon Horticultural Exhibition.

The first annual exhibition of the Brandon Horticultural Society was held in the City Hall on Aug. 26 and 27. Being the initial attempt, even the promoters were not over sanguine as to the interest with which their efforts would be greeted by the public. Now, since their first attempt has proven such a very decided success, the Brandon Horticultural exhibition may be numbered among the annual events which may be expected to be well worth re-visiting. Owing to the early date at which the provincial fairs have been held, the exhibits in the horticultural classes can never amount to much, but coming in the latter end of August, the horticultural exhibition brings out very many interesting exhibits which must be entirely absent at the earlier shows. The distressing feature is that at this very busy season the farmers are almost completely debarred from attending and largely from exhibiting. As we have said, the first exhibition was a great success, in fact, it was a revelation to most people and just gave them a good square look at what is being achieved in their midst in the production of vegetables, in fruit raising and in floriculture.

The best all-round exhibit was the one from the Brandon Experimental Farm, and it was ample proof that those who have the work there in charge are able to supply a profusion of very creditable looking products. There were specimens of 105 of the different varieties of potatoes grown on the farm, besides many other vegetables. Their exhibit of cut flowers was also splendid. A sample glass of honey from their apiary was a very substantial and convincing looking reminder that bees do well in Manitoba. There was also a small exhibit from the Central Experimental Farm at Ottawa of some of the hardier varieties of apples and crabs, toward which Manitoba fruit growers are looking rather expectantly. In the fruit line, however, the best exhibits were from the Experimental Farm at Agassiz, B. C., and from the British Columbia Fruit Exchange. In these there was a great profusion of plums, besides a good exhibit of pears, apples and blackberries.

Outside of these, nearly all the other exhibits came from the city. The collections from the professional gardeners showed skill and close competition. In the amateur classes the exhibits were perhaps equally as good, but hardly had the variety. The competition in the farmers' classes was very light, but the exhibits shown were very good.

The prizes for the best laid out and cultivated farm within a radius of twenty miles of Brandon were awarded, according to points, as follows:—1, D. McEwen, 100; 2, W. Middleton, 77; 3, J. Ramshaw, 66; 4, J. W. Tiffin, 52; 5, J. Boles, 52.

The botanical specimens from the Central school were especially worthy of mention and prove that the rising generation, of Brandon at least, will not be reared devoid of knowledge of the beautiful gems with which Nature has no bountifully decked the green sward of Manitoba.

W. L. Iyall, Portage la Prairie, has an apple tree of the Duchess of Oldenburg variety which has borne fruit three years, and has this year matured 80 apples of good size and quality.

Increasing the Durability of Timber.

Circular No. 21, issued by the Department of Agriculture, on the subject is a valuable little leaflet. Some ideas are brought out which may prove of value to our readers. The author is B. E. Fernow, Chief of the Division of Forestry.

The most important conclusions are as follows:—

Decay in wood is caused by fungi or low forms of plants, which require moisture for development. Cooled to the freezing point they cease to be active, and heated to 150 deg. Fah., they die. They need the oxygen of the air, hence woods submerged in water, or kept constantly wet, do not decay. A thin fence rail seasons and lasts; a thick one of the same wood rots before it can season.

Where boards or timbers in houses are covered with paint before they are thoroughly seasoned, as mopboards and wainscoting often are, they decay by "dry rot."

This applies especially to shingle roofs, which should never be painted until they have been on for a year or so. Timber lasts longer in heavy moist clay soils.

Fence posts from young trees with considerable sap wood, do not last as well as from older timber.

For sidewalks the rapidly grown white pine heart wood, contrary to the general belief, lasts the best.

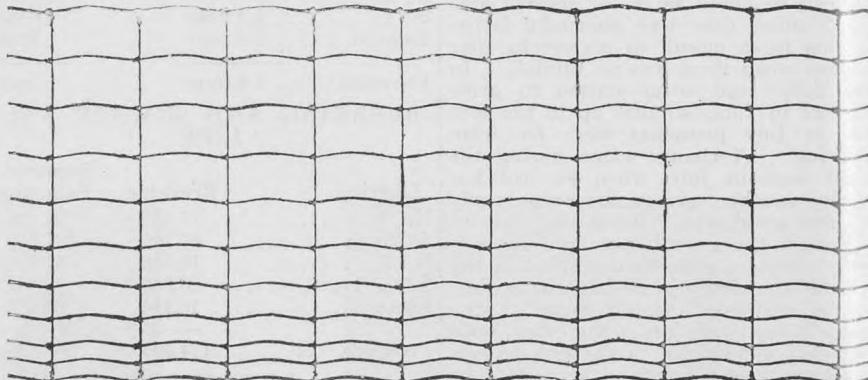
It is a great advantage to the lasting qualities of timber, to put it through the dry kiln, as the heat kills all the fungi. This suggests that it would be of value

to treat fence posts in this way. Cutting down trees in early spring, leaving them to leaf out before cutting into logs, is practised in Europe. It is claimed that this will cause a complete removal of sap stock, etc., and increase the durability. If timber is to remain in the log (as export timber, etc.,) peel, cover over the ends with cheap paint, and always place on skids. Work up any kind of timber as soon as possible.

Never leave any wood, not even cordwood, piled on the ground; raise it on cross pieces, and if it is valuable material (cooperage, wagon or other stock), pile with care, give to all parts of the pile a chance for circulation of air, and if possible cover the pile to shut out the direct sun. Thick material must have thick cross pieces, and all sawed material given to warping (sycamore, gum, oak, etc.) must be piled with special care; the cross pieces must be ample in thickness as well as in number, and must be regularly placed.

In ordinary yard seasoning, "one year for every inch in thickness" is an old rule. Inch stuff of hard woods can be seasoned well by air-drying six months and then placing them in dry kiln or hot room. Conifers of all kinds can be dried very well by placing in dry kiln fresh from the saw. Dry kiln seasoning disinfects lumber and thereby does much to increase durability.

Immersion in water for safe storage of wood is an old custom; it also improves the sap wood, since it allows the nitrogenous materials and part of the carbohydrates to be removed by fermentation



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If you have the least desire to try any of the cheap makeshift fences offered on every hand, do so. After your thrifty neighbor has proven how much more durable and efficient the Coiled Spring is to all others, we shall be ready to supply you.

Send for our illustrated advertising matter to DAVID ROSS, Box 553, Winnipeg, Agent for Manitoba and North-West, or THE PAGE WIRE FENCE CO., Ltd., Walkerville, Ont.,

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PORTABLE OR BRICKSET

WILL HEAT YOUR HOUSE FROM CELLAR TO GARRET AND WILL DO IT CHEAPLY.

16 STYLES, WITH CAPACITIES RANGING FROM 10,000 TO 100,000 CUBIC FEET.



All operations from front of furnace.
Strong firebox, large door, and ashpit.
Heavy cast damper forces fire to travel three times the length of the furnace before entering the chimney.
Every joint cup shape. **Smoke cannot escape.**
Write for catalogue.

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WINNIPEG, MAN.

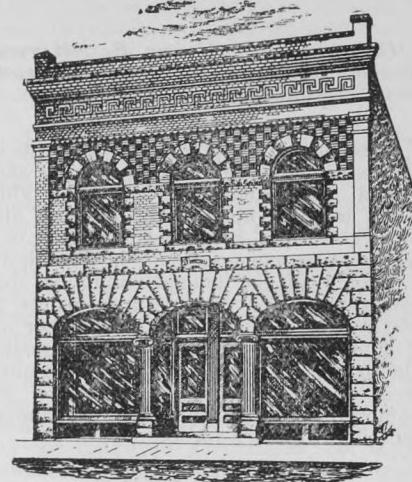


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without admitting the real wood-destroying fungi. Boiling and steaming, it is claimed, serve a similar purpose, and that all water treatments facilitate seasoning. Experiments on a large scale have not proven encouraging in this respect. The common assertion that rafting and hot water treatment injure the wood by reducing its strength is entirely unsubstantiated. Long-time immersion hastens the darkening of wood.

Never apply paint or any other coating to green or unseasoned timber. If the wood is not well dried or seasoned the coat will hasten decay. Oil paints are used to increase the durability by protecting the wood against moisture. An exposed unpainted board became gray and fuzzy, warps and checks, the nails rust out, and, even if it is not exposed to rain, damp air, steam, etc., occasion similar mischief.

For coating, coal tar, with or without sand or plaster, and pitch, especially if mixed with oil of turpentine and applied hot (thus penetrating more deeply), answers best. A mixture of three parts coal tar and one part clean, unsalted grease, to prevent the tar from drying until it has had time to fill the minute pores, is recommended. One barrel of coal tar (\$3 to \$4 will cover 300 posts).

Both tar and oil paint have the disadvantage that they act as mere covers. If the wood has any chance to get moist before painting, they are harmful instead of useful.

Heavy tar oils, freed of their volatile, as well as their thick tarry constituents, such as are now offered in the market under the name of carbolineum, are preferable to paints and tars.

These oils penetrate and act as antiseptics, actually killing the fungi, or at least retarding their action and development. They are applied with brush, or else as baths, usually and preferably hot. They cannot replace paints, where the looks of material are to be improved.

Charring assists merely as an insulator, separating the wood from the ground, and as fungi cannot eat their way through charcoal, they are prevented from entering. Generally, however, the process develops large cracks, and thus exposes the interior to the attacks of fungi.

The Prejudice against the Tomato.

The tomato alarmists are at their old tricks again. Dr. Andrew Wilson, of London, says: "I have received several letters of late, reiterating a question I might well be tired of answering, 'Do tomatoes cause cancer?' But for the fact that one takes a pleasure in stamping one's foot on a misleading statement calculated to prejudice people against a vegetable food which is entirely healthful and safe, I should grow weary of asserting that not a jot or tittle of proof has ever been offered in support of the outrageous statement noted above. One might as well allege that cabbage causes cancer, for there would be no more proof of that assertion than there is proof to be had concerning the tomato myth. I can only repeat that the tomato is an excellent vegetable enough, and may be partaken of by those with whom it agrees, without any fear of its initiating any disease whatever."

Deforested Spain.

Of all the countries of the world Spain is the best one in which to observe the effects of deforestation without any attempt to replace the devastated tracts. Other European countries have adapted methods for forest preservation. Spain with her characteristic indifference to the future has permitted cutting unrestrictedly until large areas that were once rich farming lands have passed to barren wastes or still support a few miserable peasants at a trifle above the starvation point. Mountains that were once forest-clad to their summits, and were the never-failing sources of the rivers, are now denuded of their green mantle and scarred and riven by the washings of torrents caused by the erratic distribution of rainfall and absence of the tree roots to hold the soil to the rocks. A man's environment has much to do with his intellectual development, the climatic and other physical changes brought about by deforestation should be duly considered as a factor in Spain's decadence, just how large a one, of course, cannot be determined. It is well to reflect that the same causes that lead to the destruction of Spanish forests, insatiable greed and indifference of the future, is at work on our own forests, and unless

checked will at least bring about the same physical results.

The Division of Forestry of the United States Department of Agriculture has recently issued a bulletin on Experimental Tree Planting in the Plains. It is an account of the experimental plantings made by the Department in the Western States. It is full of practical helpful facts to the grower of trees on the plains.

The great value of fruit growing to the farmer is not primarily in the money he may make out of it, although money can be made out of it, but rather in the health-giving tendencies that come from an abundant supply of all kinds of fruit that can be grown in the locality. There is no reason why every farmer in Manitoba and the Territories cannot have all the fruit the family can use. Because fruit trees cannot be grown, it is not necessary to give up the idea that no fruit can be raised. Nearly all the small fruits grow well and do well. Begin first, then, with those that will do well, and are the most easily grown. Then gradually gather to this nucleus a supply of other fruits as they show their suitability to your surroundings. A little trouble in looking after the fruit will be the means of adding a great deal of comfort and independence to the home life on the farm.

Manilla hemp is not the fibre of a hemp plant as we understand hemp. It is made from the leaf of a plant belonging to the banana family. It puts out a stool of leaves which grow to the height of 20 or 30 feet. At three years of age this stool shoots out a flower stalk. It is now ripe. The leaves are cut off and torn into narrow strips. While fresh they are drawn under a knife until the flesh is all gone and only the ribs, or fibre, remains. Two men in the Phillipines can get out about 25 lbs. a day. Each leaf yields about a pound of the fibre. The fibre is now so valuable that Manilla hemp cordage is freely adulterated by manufacturers with mixtures of New Zealand flax and Russian hemp. Neither is sisal a hemp. This fibre is from the leaf of an aloe plant, which is native to Central America. It is raised also in Mexico and latterly has been introduced in Florida. The United States Department of Agriculture has been trying to get planters to grow sisal with the object of making rope and twine all of their own manufacture.

The Game Birds of Manitoba.

A Paper read by George E. Atkinson, Portage la Prairie, before the Historical and Scientific Society of Manitoba.

The science of Ornithology is one which shows striking results of great interest and practical value, if it be studied aright. Herein we look upon those forms of life which constitute a connecting link between reptiles and mammals, in that highest branch of the animal kingdom, the Vertebrata. To Aves nature permits a wider range than to any other member of the sub-kingdom. The birds are equally at home on land or water, have "dominion of the air," and possess a power of locomotion through space in a manner impossible to other forms.

OUR GAME BIRDS.

By our game birds we mean those birds which are sought after for the double purpose of affording sport to the hunter and meat to the larder. The serving of these purposes having been regarded by the majority of sportsmen as the only interest or value of our game birds, it must not be wondered at that little time has ever been given to look for other interesting or valuable qualities beyond a sufficient knowledge of the surest methods of capture and the choicest varieties for the table.

It is the lack of authentic knowledge, consequent on the lack of interest manifest, which has allowed so many ridiculous stories about our most familiar species to remain unchallenged by men who should know the truth on account of experience, but who do not know because of defective observations and interests.

I trust that I may be able to show that the subject is exceedingly interesting from different standpoints, and yet little can be explained in one paper in proportion to what is to be known and which should be known by every man who has interest enough in sport to take a gun in hand and go in pursuit of game. It is the intention of this paper to deal almost entirely with the orders, as time and space do not permit of an investigation of individual species.

I. SYSTEMATIC TREATMENT.

The systematic treatment or Alphabetical standpoint is that which names our subjects, classifies them into orders, families, genera, and species, according to their diversity of form, coloration or habitat; traces the general relations of all forms to each other, and is the centre of the investigations of the evolutionists.

In dealing with our game birds from this standpoint of view, therefore, we first perceive that they are grouped into three orders, with a total local representation of 78 species, viz.:

Anseres, including ducks, geese, and swans, with 37 representative species.

Limicolae, including snipe, sandpipers, and plovers, with 36 representative species.

Gallinae, including grouse, quail, and turkeys, with seven local species.

A comparison of the three orders shows that the order Anseres are all birds adapted to aquatic life, the Gallinae for life on dry land, while Lomocolae form the connecting link, being adapted for a sub-aquatic life.

Let us make a systematic comparison of the structures of the three orders to show adaptation to conditions.

1. Anseres.—Feet webbed; adapted for swimming; tarsus short and thick; bill stout, flat or round with teeth or toothed ridges to assist in securing submerged food, the ridges acting as strainers or gutters to allow the water to escape;

sternum flat, broad, long and almost solid at the base; keel low, forward, slightly sloping to the base; frontal bone comparatively stout and round, only connected with the keel by weak muscles; wing almost twice as long as wide with very strong pectoral muscles for swift, systematic and sustained flight; no crop.

2. Limicolae.—Toes bare, lobed, or semi-palmated; legs long and slender for wading; bill long and slender (except in plover) for surface feeding or probing the mud and bog weed; sternum slight, narrow and short; frontal bone quite delicate, keel proportionately quite high covering down to a nearly solid base; wings long and narrow, well adapted for an erratic dodging flight. No crop.

3. Gallinae.—Toes unwebbed and unlobed; tarsus short and stout, often covered with hair or fine feathers; hind toe much longer than either Anseres or Limicolae; foot suitable for scratching, running on dry land or perching in trees; bill short and stout; sternum very narrow and long proportionately; keel very high, curving down to a solid base detached from a strip of bone on each side, seeming like the lower rib, only it is not jointed to the sternum but is part of itself; frontal bone long, narrow and pointed, attached to keel by quite a strong muscle; wings short, broad and rounded for a bullet-like flight to escape enemies; quite a large crop where considerable food can be stored from time to time.

ANSERES (DUCKS AND GEESE).

Dealing with each order separately, we find them divided again into families, each showing characteristics peculiar to themselves.

In Anseres there are four such families, viz.:

(a) Merginae.—Mergansers or fish ducks: Bill long, narrow and rounded, sharply toothed for holding fish; tarsus shorter than middle toe, without nail, having a representation of three species in Manitoba.

(b) Anatinae.—River Ducks: Tarsus as in Merginae, bill broad, flattened teeth, more ridgelike; no lobe on the hind toe. Includes mallard, teal, pintail, wood duck, shoveller and widgeon, etc., with ten Manitoba species.

(c) Fuligulinae.—Sea and Bay Ducks: Bill and tarsus as in Anatinae; hind toe lobed; altogether a rounder duck than Anatinae. Includes bluebills, whistler, redhead, canvasback, scoters, cowbirds and eiders, with fifteen local representatives.

(d) Anserinae: Tarsus longer than middle toe; without nail; lores feathered, usually larger than foregoing families. Includes geese, with seven local species.

(e) Cygninae: Tarsus as in Anserinae; lores bare; size much larger than other families. There are two representative species.

LIMICOLAE (SHORE BIRDS).

The Manitoban Limicolae are divided into five families, viz.:

(a) Recurvirostridae: Toes four, unlobed; bill long and slender; tarsus over 3½ inches. Includes stilts and avocets, having only one species in Manitoba.

(b) Phalaropodidae: Toes four, lobed and semi-palmated; tarsus under 3½ inches; bill long and slender. Includes phalaropes, having two species local.

(c) Scolopacidae: Toes four, unlobed, sometimes semi-palmate; tarsus 3½ inches; bill long and slender. Includes snipe, sandpipers, with 24 species locally represented.

(d) Charadriidae (Plovers): Toes three, not lobed, sometimes semi-palmated; hind toe; bill short and thick for surface feeding; tarsus under 3½ inches. There are five local species of this family.

(e) Aphrideridae: Toes four, unlobed and unwebbed; bill as in Charadriidae; tarsus under 3½ inches. Turnstones, with only one species, being more common on the coast.

GALLINAE (GROUSE, ETC.).

The divisions of Gallinae (local species) are fewer, on account of fewer varieties being found on the prairies. The majority of the Gallinae are inhabitants of more southern and wooded districts. The whole number of resident species are included under one family: Tetraonidae, the more northern and feather-legged sub-family of the grouse, quail and partridge. All our local species are feather-legged.

BREAD, POTATOES and MILK.

A Dyspeptics daily diet.

Dyspepsia is one of the most prevalent of diseases. Thousands of people suffer from it in a more or less aggravated form. Few diseases are more painful to the individual or more far reaching in their effects on human life and happiness. What the dyspeptic needs is not local treatment, not mere temporary stimulus. The real need is the toning up of the entire system. Fortify the system and it will do its own fighting, and promptly eject any intruding disease. The success of Dr. Ayer's Sarsaparilla in curing indigestion and dyspepsia is due to just this quality which it possesses, of renewing the vital forces, repairing the waste and loss of the body. The ordinary treatment brings the food down to the level of the weak stomach. Dr. Ayer's Sarsaparilla puts strength into the stomach, and brings it up to the level of the strong food fit for men. It does this by strengthening the entire system. The stomach cannot stay weak when all the other organs are gaining strength. What Dr. Ayer's Sarsaparilla will do for dyspepsia is best illustrated in cases like that of M. S. Shields, Meridian, Miss. Mr. Shields had got down to the last level of dyspepsia. But let him tell his own story:—

"For years, I was afflicted with dyspepsia which gradually grew worse until I could eat nothing but bread and potatoes."

seasoned with a little salt, and drink only a little milk. I became so bad that a trifle too much of even these caused terrible suffering in the regions of the stomach, darting pains back of the eyes, attended with dizziness and partial loss of sight. The only way I could get relief was by vomiting. Finally I had such a severe attack that the entire left side of my body felt numb and partially paralyzed, and in this condition, I was taken to my room unconscious. The physicians failed to help me, and none of the many remedies I took did me any good. At last a friend presented me with a bottle of Dr. Ayer's Sarsaparilla and before I had used half of it, I could see a decided change for the better. I used three bottles and was so completely cured that for four years I have not been troubled with the old complaint, but am rugged and hearty and able to eat anything that can be eaten. It would be impossible to say too much in praise of Dr. Ayer's Sarsaparilla, and I would not give one bottle of it for a dozen of any other kind."—M. S. SHIELDS, Meridian, Miss.

Try Dr. Ayer's Sarsaparilla if you are dyspeptic. If you want more testimony to the value of the medicine, get Dr. Ayer's Curebook. It is sent free on request by the J. C. Ayer Co., Lowell.

II. THE PHILOSOPHIC SIDE.

The philosophic standpoint from which Ornithology may be treated, is that which deals with the whys and wherefores of the systematic. Herein we deal with the living specimen, and reason out the cause of the diversity of form, coloration, etc., shown by the systematic, by a careful observation of habit and habitat or conditions and environment of the species.

From this point of view, therefore, we will deal with : "The origin of birds and their place in nature," "The migration of game birds, its cause and effect," and "The effects of civilization upon our game birds," pointing again to the systematic description to show the effect of a cause, or the construction of forms to suit chosen conditions.

As to the origin of birds and their place in nature, much may be said, but I shall simply refer you to former mention of birds as the connecting link between reptiles and mammals ; on the lower side the *Archaeopteryx macrura*, the earliest known bird fossil, found in the Jurassic States of Bavaria, connecting with reptiles ; and on the other hand to the *Ornithorhynchus paradoxus*, duck-billed platypus, that peculiar egg-laying mammal of Australia, as the connecting link between aves and mammalia.

Regarding the migration of birds, its cause and effect, much controversy annually takes place without very definite solutions being given to that problem ; consequently, I shall only explain the peculiar migration habits of the three orders, and show a few simple reasons for such, also showing that food and temperature, while to some extent responsible, cannot be held accountable for all migration.

The *Anseres* (ducks, geese and swans) are regularly migratory in Manitoba, leaving only on the freezing up of the ponds, rivers and lakes, which are the feeding grounds and resting places of the birds. They winter usually as far north as they can procure food, open water and protection from enemies. For this reason we may argue that food and protection are sought by this order in migrating, as they are so constructed as to be comparatively helpless out of reach of water, notwithstanding the fact that they regularly leave the water to feed in the stubble fields. They rise and strike out in a regular swift and systematic flight to winter quarters when compelled to leave their summer homes.

2. The *Limicolae*—shore birds—snipe, sandpipers and plover—show different characteristics, and no family of land birds has a greater migration range. Many species which do not reach us until late in May pass long distances north of us to breed, and return early in August with their families. Leaving us early in September, they continue their journey by degrees till they are regularly recorded as wintering in Southern Patagonia. It is evident that neither food nor protection is the cause of such an extensive migration, as the birds are regular in their return in the spring, even though their breeding grounds are still snow and ice bound, and they are gone from us again in the fall often before the first frosts.

Observations of the birds of this order in life, and a comparison with human beings, have likened them to a very nervous and hysterical person, who never can remain quiet and is always fidgeting and twisting the hands and feet, as the majority of species seem affected with St. Vitas' dance. Even when standing in one place they are constantly bobbing their heads and bodies in an involuntary and nervous manner, and look as though they grudged the time they were spending with us and were anxious to be away again. Their calls express the same wild hysterical and

fretful feeling. As they are usually gregarious, they are easily decoyed by an imitation of their own whistle or that of a kindred species.

3. The Gallinæ are less migratory than any of the others, and the local family *Tetraonidae* are practically resident wherever found, migrating only when compelled to on account of the home supply of food being frozen or snow covered, depending on their swift, bullet-like flight and their coloration and skill to elude enemies. Even the Ptarmigan, the most northern genus, are only slightly migratory, turning white in winter and brown in summer as a protection from enemies.

OUR GROUSE.

The effects of civilization upon our game birds have been quite striking, differing with each other. Formerly all the water fowl were much more regularly and abundantly distributed over the country, but with the advance of civilization, the introduction of harvest machinery, the puffing of the locomotive, the reclaiming of the bogs and sloughs—their original nesting sites—they are rarer. The ducks and such members of the *Limicola* as fre-

quented these places have been compelled to retire with the Indian to the wilder and less accessible places, while such as are only migratory have shortened their stop-over periods with us, while local breeding species now congregate on the larger lakes to await their friends from the north on their southern journey.

The effects on the Gallinæ have been very different, revealing in one case a change of habit to suit changed conditions, a change of habitat in a second, and the advance of a better adapted species in a third.

(a) When this country was first settled the ruffed grouse or partridge (*Bonasa umbellus*) was a numerous and unsuspecting bird in all our small bluffs, being easily flushed, and allowing an approach sufficiently close to knock it from the tree with a stick or snare it with a noose on a pole. At the present time the bird thrives in the vicinity of civilization, but is quite cunning, being difficult to flush, seldom alighting in trees, and placing itself in hiding with the greatest alacrity and remaining hidden most successfully.

(b) The sharp-tailed grouse (*Pediocetes phasianellus var., campestris*), be-

The Razor Steel, Secret Temper, Gross-Cut Saw.



We take pleasure in offering to the public a Saw manufactured of the finest quality of steel and temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than by any process known. A Saw to cut fast "must hold a keen cutting edge."

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These Saws are elliptical ground thin back, requiring less set than any Saws now made, perfect taper from tooth to back.

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ing uninclined to adopt civilized habits, has retired to the wilder and more unsettled parts of the province, and in one case extending its range eastward into the wooded country of the Rainy River and Algoma Districts of Northwestern Ontario, is regularly recorded now at Lake Tamiscamingue, the head waters of the Ottawa River.

(c) The pinnated grouse (*Tympanuchus americanus*), a comparatively new species, entered the province some fourteen years ago (1881) from Northern Minnesota and Dakota, and following up the grain fields, increases under the very feet of its greatest enemy—man. It is a larger and heavier bird than *Pediocetes campestris*, whose place it has taken, and seems well acquainted with the game laws and the tricks of humanity. In season they are wild and shy, running long distances through the grass after alighting from a long flight. They hide themselves in the scrub and grass and are difficult to dislodge, having considerable power to withhold their scent. They do not frequent the trees as much as *Pediocetes campestris*, but in severe winter they go deeper into the bush than do the sharp-tailed variety. The sharp-tailed grouse come from the milder parts in the winter and keep company with the pinnated grouse about the stacks, but being in their own habitat a stupid, silly bird, the pinnated grouse do not seem to be able to tolerate their ignorance and repeatedly drive them off, while such as remain learn lessons of wisdom from this new and up-to-date game bird, which, while much more difficult to hunt, is a much handsomer bird, and affords more sport and satisfaction in its pursuit and capture, and is enthusiastically welcomed to Manitoba and Western Canada.

III. THE ECONOMIC QUESTION.

The economic standpoint is that which deals with the relations of the subject at issue to man from a financial standpoint. This is considered by economists and the general public to be the most important branch of any investigation.

Dealing with the game birds from this point of view we will consider them, irrespective of their value as game, according to their relations, beneficial, injurious, or neutral, to agriculture, that most necessary art of civilization. By a beneficial species is meant one which feeds on or destroys the enemies of agriculture. By an injurious species is meant one which feeds on or destroys forms beneficial to agriculture or injures or destroys the results of agricultural labor or hinders in any way the destruction of enemies of agriculture or injures or destroys that which is beneficial to man.

By a neutral species is meant one whose injurious qualities balance the beneficial or whose feeding habits in no way interfere with human interests and independent of that law of nature that nothing has been made in vain as all necessary to maintain the balance of nature.

Therefore, if we take the most beneficial or least injurious first we shall turn to the Gallinæ. The food of these birds during the breeding season, which is also the most important season for the agriculturalist, consists almost entirely of insect food, chiefly grasshoppers, caterpillars and injurious Coleoptera and Hemiptera. The winter food consists of rose-hips, wild berries and buds, the former a nuisance to the farmer, the latter of no material value. For this reason we may consider Gallinæ a beneficial order.

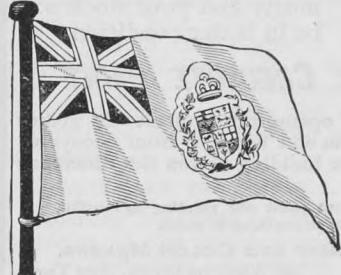
While the Limicolæ are almost entirely insectivorous their indiscretion in destroying many beneficial aquatic forms as well

as injurious species classes them more a neutral order tending to be beneficial.

With Anseres the case differs. A duck will eat anything it can get into its mouth and a wild duck is no exception to the rule. While they destroy large numbers of injurious forms, they do not discriminate, but devour large numbers of beneficial forms, such as frogs, lizards, crayfish, snails, and the large aquatic beetles and the Belostoma, which are all beneficial in keeping in check the innumerable small injurious insects too small to be used to the ducks. However, were this the only charge, we should acquit them neutral, which they probably are to the agriculturist. But much graver charges are laid against them which sooner or later will require investigation.

Our governments annually spend large sums of money in replenishing the supply of food fishes in our lakes and rivers, as many species of this order of birds have decided piscatorial appetite, more especially the open water ducks and mangans which congregate in large numbers at the spawning beds of our food fishes, and gorge themselves upon the fry and spawn while game commissioners blame the agency of man for the decrease of food fishes.

I once took from the throat of a single drake (American manganser) sixty-four small fish, the fry of whitefish, salmon, trout, bass, chub and kindred forms, ranging from one-half to three inches in length, while I have frequently taken thirty or forty small fish from the throat of a common mallard (*Anas boschas*), which had been shot while feeding in a millpond or a small stream. The retiring of these birds consequent on the advance of civilization, causing them to seek food in open water, will induce many at present non-fish-eating to accept the same diet, and



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much more damage will be done our food fishes in this manner than can ever be done with nets, which do not take the spawn or fry. From these facts we may see that the ducks are not beneficial to agriculture, and they are certainly injurious to our fisheries to an extent which will not decrease with the advance of civilization. If evidence of damage done be carefully estimated, then we shall see whether the valuable food fish destroyed is less than the value of game to the fastidious epicure, and whether the birds should be still protected in their depredations.

Geese and swans are strictly migratory with us. Although much damage was once done to growing crops by the immense flocks of snow geese (wavers), and this is the cause of their having no protection as game at present, the settlement of the country has greatly reduced the numbers of these birds, and in the greater part of Manitoba they may be considered as a neutral order or injurious in comparison to their numbers.

IV. THE SENTIMENTAL ASPECT.

We now arrive at the concluding standpoint, namely, the sentimental, or that through which the beauty and perfection of nature and the majesty of the Creator appeal to and direct our lives through our intercourse with nature. This can scarcely be considered a scientific point of view, since many eminent though matter-of-fact scientists argue that true science will not permit of sentiment. But herein we distinguish between a naturalist and a matter-of-fact scientist, as sentiment is born in man.

This is the sunny pathway of the student of nature; he fairly revels in it, and for this reason a few sentimental observations from a sentimental naturalist will not be considered out of place here. It seems very fortunate that so many are too much engrossed with matter-of-fact views that little or no room or time remains for sentiment. Yet what harm does it do us? What time does it take to fill it and enjoy it? What a comforting and cheering influence it has upon our flagging spirits, and what an influence it might have upon our lives were we to thoughtfully study the simplicity and ready obedience of living forms to an unseen director called instinct.

How strikingly human are the characteristics displayed, and how difficult it is for us to determine where reason begins and instinct ends. Where do we see a more striking exemplification of human characteristics than may be seen in the mother grouse as she leads her newly-hatched chicks about? Her pride as she leads them along before the scrutinizing gaze of her neighbors who show striking resemblances to admiration, disdain or even jealousy. See the pleasure and curiosity the little creatures show as they run peeping about exploring every cranny, the affectionate manner in which she seems to talk to them and her anxiety and alertness as you put in an appearance and she fully realizes the helplessness of her family. See her courage and devotion in risking her own life as she says to them "hide quick while I lead the brute away," when suddenly she feigns injury flapping along in a semi-helpless manner and leads you on a chase after her. She is just in your grasp, you think, when suddenly the ruse is complete. You have been deceived and decoyed away, the wing is suddenly repaired and with a bound she is off while you stand and gaze with open eyes and mouth after her, or feel disgusted with yourself for being fooled by a bird.

Again we see the instant obedience of the chicks to the mother's voice as she directs them to hide or calls them to her

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side again after you are out of sight (and breath.)

Again we see the vanity of the male as he struts about drumming to his mate, the modesty with which she accepts his attentions and vows of love, the constancy with which she attends to her domestic duties while her fickle lord frequently goes off with his comrades, leaving his faithful wife to look after the family.

These and many other characteristics make our birds exceedingly interesting subjects of study. Yet how many opportunities we miss of watching the life of the birds. How many secrets we lose by carelessness. How often we feel tired with nothing to do when we could restore our minds to vigorous action by watching the birds.

How often from his hiding could a sportsman bring valuable information if he used his observing powers and studied the forms about him as he watches for game? Yet I am forced to admit that the poorest and most absurd reports have been received from this same source where such great opportunities are offered from time to time on the periodical trips of the sportsman to the lake, river or woods in search of game. A great majority of reports received from this source are upset by the slightest scientific investigation. Yet it is surely plain that a slight scientific knowledge of the species we are pursuing would prove valuable to every sportsman in assisting him in securing his game, and the knowledge once acquired cost nothing to carry about and it becomes lighter as the material increases. I can only say with John Burroughs, that eminent field naturalist and sportsman, about the observation of nature:

"There is a fascination about it quite overpowering. It fits so well with other things, fishing, hunting, farming, camping out, with all that takes us to the field and woods. One may go berry-picking and make a rare discovery or driving a cow to pasture may hear a new song or make a new observation. Secrets lurk everywhere. There is news in every bush. What no man ever saw before you may see. What a new interest the woods have; how you long to explore every corner."

To these remarks I can only add: Make records of your observations on paper. Don't trust to memory, it may deceive you. Tell your friends your observations that you may learn from discussion what is regular and what is irregular. We need never be afraid of seeing too much or of learning everything. To see the beauty and the life will often humble our proud spirits or prove refreshing and helpful when worldly cares press heavily upon us.

LIST OF LOCAL SPECIES.

The following is the list of the local species of the three orders, as complete as can be secured at the present time:

ORDER ANSERES.

Family Anatidae.

Sub-family Merginae :

American Merganser — *Merganser americana*.
Red Breasted Merganser — *Merganser serrator*.
Hooded Merganser — *Hopodytes cucullatus*.

Sub-family Anatinae :

Mallard — *Anas boschas*.
Black Duck — *Anas obscura*.
Gadwall — *Anas strepera*.
Widgeon or Baldpate — *Anas americana*.
Green Winged Teal — *Anas carolinensis*.
Blue Winged Teal — *Anas discors*.
Cinnamon Teal — *Anas cyanoptera*.
Shoveller — *Spatula clypeata*.
Pintail — *Dafila Acuta*.

Wood Duck — *Aix sponsa*.

Sub-family Fuligulinae :

Red Head — *Aythia Americana*.
Canvas-back — *Aythia vallisneria*.
American Scaup Duck or Big Blue Bill — *Aythia marila nearctica*.
Lesser Scaup Duck or Little Blue Bill — *Aythia affinis*.
Red-necked Duck — *Aythia collaris*.
American Golden Eye or Whistler — *Glaucionta clangula Americana*.
Barrows Golden Eye — *Glaucionetta Islandica*.
Bufflehead — *Charitonetta albeola*.
Cowheen or Old Squaw — *Clangula hyemalis*.
Harlequin Duck — *Histrionicus histrionicus*.
American Eider — *Somateria dresseri*.
American Scoter — *Oidemia Americana*.
White Winged Scoter — *Oidemia deglandi*.
Surf Scoter — *Oidemia perspicillata*.
Ruddy Duck — *Erismatura rubida*.

Sub-family Anserinae :

Lesser Snow Goose Wavy — *Chen hyperborea*.
Blue Goose — *Chen caernescens*.
White Fronted Goose — *Anser albifrons gambeli*.
Canada Goose — *Branta Canadensis*.
Hutchin's Goose — *Branta C. Hutchinsii*.
Brant Goose — *Branta bernicla*.
Sub-family Cygninae :
Whistling Swan — *Olor columbianus*.
Trumpeter Swan — *Olor buccinator*.

ORDER LIMICOLAE.

Family Phalaropodidae :

Northern Phalarope — *Phalaropus lobatus*.
Wilson's Phalarope — *Phalaropus tricolor*.

Family Recurvirostridae :

American Avocet — *Recurvirostra Americana*.

Family Scolopacidae :

American Woodcock — *Philohela minor*.
Wilson's Snipe — *Gallinago delicata*.
Dowitcher — *Macrorhamphus griseus*.
Long-billed Dowitcher — *Macrorhamphus scolopaceus*.
Silt Sandpiper — *Micropalama himantopus*.
Knot or Robin Snipe — *Tringa canutus*.

Pectoral Sandpiper — *Tringa maculata*.
White-rumped Sandpiper — *Tringa fuscicollis*.

Baird's Sandpiper — *Tringa Bairdii*.

Beast Sandpiper — *Tringa minutilla*.

Red Backed Sandpiper or Blackheart — *Tringa Alpina Pacifica*.

Semipalmated Sandpiper — *Ereunetes occidentalis*.

Sanderling — *Calidris arenaria*.

Marbled Godwit — *Limosa fedoa*.

Hudsonian Godwit — *Limosa haemastica*.

Greater Yellow Legs — *Totanus melanoleucus*.

Lesser Yellow Legs — *Totanus flavipes*.

Solitary Sandpiper — *Totanus solitarius*.

Willet — *Sympetrum semipalmata*.

Bartramian Sandpiper or Quail — *Bartramia longicauda*.

Buff-breasted Sandpiper — *Tryngites subruficollis*.

Spotted Sandpiper — *Actitis macularia*.

Long-billed Curlew — *Numenius longirostris*.

Eskimo Curlew — *Numenius borealis*.

Family Charadriidae :

Black-bellied Plover — *Charadrius squatarola*.

American Golden Plover — *Charadrius dominicus*.

Kildeer — *Aegialitis vocifera*.

Rink-neck Plover — *Aegialitis semipalmata*.

Piping Plover — *Aegialitis meloda*.

Family Aphrigidae :

Turnstone — *Arenaria interpres*.

ORDER GALLINAE.

Family Tetraonidae :

Canada Grouse or Spruce Partridge — *Dendragapus Canadensis*.

Ruffed Grouse — *Bonasa umbellus togata*.

Gray Ruffed Grouse — *Bonasa umbellus umbelloides*.

Willow Ptarmigan — *Lagopus lagopus*.

Rock Ptarmigan — *Lagopus rupestris*.

Pinnated Grouse — *Tympanuchus*

americanus.

Sharp-tailed Grouse — *Pediocetes campestris*.

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Thy Will Be Done.

She was so small—
A wee, pure bud, from God's own garden
lent,
To fill my life with one bright dream of
joy.
To the sweet kisses I was well content,
And thought no cloud could e'er my hopes
alloy;
But, ah! my heart is breaking with the
dawn.

For she has gone.

She was so fair—
This love of mine, with rippling curls of
gold,
That rollicked with the breezes in delight;
A hidden sunbeam in each silken fold.
A lovely star amidst the gloom of night.
But ne'er shall she awaken with the dawn,

For she has gone.

She was so small—
And yet she was my sunshine through the
day,
A fairy guard to guide my steps aright.
Ah! now the sky is shrouded deep in
grey;
And life is one long dreary winter night,
I cannot welcome in the light of dawn,
For she has gone.

She was so dear—
That, e'er I knew, I lived for her alone;
Happy to feel her head upon my breast,
To hold the dimpled hands within my
own;
And dream whilst rosy lips my cheek
caressed.
But all my bliss was vanished with the
dawn,
For she has gone.

She was so fair—
That the kind Father willed she should
not stay
Within a world where sin and sorrow
roam;
And one still morn just at the peep of day,
An angel came and took her gently home,
And calmly I await a heavenly dawn—
Since she has gone.

Bread Making.

By Miss Laura Rose, Instructress in the
Home Dairy Course, Ontario Agricultural
College, Guelph, Ont. Specially
written for the Household Department of
The Farmer.

Bread is called "the staff of life," and yet I fear we do not consider carefully enough its life-giving qualities. The chief aim of every bread-maker seems to be to have it white and light, and if these two features can be obtained little heed is given to the nutritive value of it. I am glad to note a change in this direction among the more thoughtful and progressive housewives; for now not only the question, "Is the bread pleasing to the eye and agreeable to the palate?" but also, "Is it nourishing to the body as well?" is being asked.

In my travels through the more thickly settled country, I am grieved at the growing tendency to discontinue baking and to buy bakers' bread in place of the wholesome, more satisfying, home-made bread. Were I a mother of a growing family, I would consider it almost a sin to bring up children on the often slightly soured,

fresh, indigestible bought bread which is found upon so many tables. Little wonder that even amongst children stomach troubles are on the increase. Stale bakers' bread, for some reason or other, is not very palatable; while good home-made bread improves with keeping for a certain time, and is vastly better for the digestive organs.

Want of time and scarcity of help is the excuse offered for not baking; but I think to supplant, with an inferior article, a food which forms so large a portion of our diet, is commencing at the wrong end to curtail labor. With system and care, bread-making is really very little trouble. I know of nothing which gives such a thrill of satisfaction as looking at a batch of golden brown, crackling bread, just removed from the oven. There are many methods of making bread, which give, perhaps, equally good results. I will briefly describe the one I have followed for years. I have at times used the compressed yeast and the dry yeast cakes, but invariably fall back on the hop yeast, which in my opinion makes the sweetest flavored and best bread.

To make the yeast, grate four medium sized potatoes into a stone crock, add three tablespoonfuls of flour, two of sugar and one of salt. Put a generous handful of fresh loose hops in a kettle and pour over them a quart of cold water. Let boil for fifteen minutes; then strain the boiling hop water over the ingredients in the crock. Soak one fresh dry yeast cake in half a cup of lukewarm water. When the contents of the crock have cooled to blood heat, stir in the dissolved yeast cake. If made in the morning and kept warm, it will be foamy, have a decidedly yeasty smell, and taste and be ready for use by evening. Bottle tightly the next day, put in a cool place and it will keep for several weeks. With two quarts of warm water make a stiff batter, add a cup and a half of the yeast and beat well. Let rise over night, and in cool weather wrap up well to keep warm.

Sift sufficient flour into the bread tin (it is well to slightly warm the flour in the winter), sprinkle over two large handfuls of salt, pour in the sponge, mould to a stiff dough, then knead for fifteen minutes. It is well to watch the clock, as one is apt to become tired before the time is up. This thorough kneading changes the gluten in the flour, making the dough elastic, freeing it from any stickiness, and making white, flaky bread. Keep it warm, but not hot, as temperature has as much to do with bread-making as it has with butter-making. In winter it is a good plan to place a hot board under the pan, which should be well covered up in a place free from draughts. Do not have it standing exposed by the stove, with one side of the pan hot and the other cold.

When the dough has increased to twice its bulk, mould into small loaves (there should be eight), and place in greased tins. Keep warm, and again let rise until the loaves have increased to twice their original size. Bake for an hour in a moderately heated oven. Be sure the oven is warm enough when the bread first goes in, otherwise the bread will get over-light. If the oven is too warm, a thick crust forms on the loaves, which prevents the heat penetrating to the inside; the result will be an underdone centre and a burnt outside.

Remove the loaves from the pans immediately after taking from the oven. Do not cover up the bread, but let the air get to it as much as possible while cooling. Always keep bread in a tin box, which at every baking should be thoroughly scalded and aired, to prevent mould.

Using good flour and carefully following the above directions, the result should be bread of the first quality.

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The Beneficent Lemon.

We know in a dull sort of way that lemons are useful, and if we didn't we might easily find this out by looking over the papers. But just how valuable they really are few of us realize. They are of very great medicinal value, and are better than patent medicines and nostrums put up in bottles and boxes for the benefit (?) of the human family.

A teaspoonful of lemon juice in a small cup of black coffee will drive away an attack of bilious headache, but it is better to use them freely and to avoid the attack of headache. A slice of lemon rubbed on the temples and back of the neck is also good for headache. These facts help in beautifying one, for who can be beautiful and ailing at the same time? The days are past when the delicate woman with "nerves" was the heroine of all the novels and the "clinging vine" supposed to be admired by all the men.

For discolored or stained finger nails a teaspoonful of lemon juice in a cup of warm soft water is invaluable; this is one of the very best manicure acids. It will loosen the cuticle from the finger nails as well as remove discolorations.

Lemon juice in water is an excellent tooth wash. This is about the only thing that will remove tartar. It will also sweeten the breath.

"Man Sandy," said a Perthshire farmer, "Jock Macpherson's an awful mean chap." "Hoots, toots, man!" said his friend, "ye're haiverin'! Hoo d'y'e mak' that oot?" "Weel, I'm jist sayin' he's mean—beastly mean. It's like this. I was up at his hoose the ither nicht, and he said, 'Peter, will ye hae a hauf o' whisky?' and I said: 'Ay, of coarse!' Weel, he got his bottle oot and began to pour me out a glass, and thinkin' to be sort o' polite, ye ken, I said, 'Stop, stop!' — and he stopt!" — Weekly Telegraph.

Winnipeg, July 9th, 1898.

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My Own Four Walls.

The storm and night is on the waste,
Wild through the wind the herdsman
calls,
As fast on willing nag I haste
Home to my own four walls.
Black tossing clouds, with scarce a glimmer,
Envelop earth like sevenfold palls :
But wifekin watches, coffee pot doth simmer,
Home in my own four walls.
A home and wife I too have got,
A hearth to place whate'er befalls ;
What needs a man that I have not
Within my own four walls ?
King George has palaces of pride,
And armed grooms must war' those
halls ;
With one stout bolt I safe abide
Within my own four walls.
Not all his men may sever this ;
It yields to friends, nor monarchs' calls;
My whinstone house my castle is—
I have my own four walls.
When fools or knaves do make a rout
With gigmen, dinners, balls, cabals,
I turn my back and shut them out,—
These are my own four walls.

—Thomas Carlyle.

Hints for Busy Housekeepers.

Burnt Puddings.—An old housekeeper at Foxwarren, Man., states that in puddings and other culinary productions made with milk and burned in the cooking, the burnt flavor may be taken away by cooling the dish in a pan of cold water. It's worth remembering.

Butter Beans.—Get the beans as fresh as possible. Put on to cook in boiling water enough to cover. After cooking five minutes add a generous pinch of soda. Let them cook a minute or two, drain off the water, add fresh boiling water, and salt to taste. Cook until tender, letting the water gradually boil away. Season with butter and add hot milk enough to cover them. Or they may be served nearly dry with only butter and salt to season them.

Odor of Onions.—The odor of onions when cooking makes them objectionable to many who would otherwise enjoy them. If they are cooked in the oven—either boiled or baked—in a covered dish and the oven kept closed, the smell may be confined to the kitchen, it is said.

Currant-Cup.—Mash a pint of ripe red currants and mix with half a pint of water; let stand one hour. Boil a quart of water, an ounce of oatmeal and the grated peeling of half a lemon for ten minutes; add sugar to sweeten slightly, let dissolve. Strain, and add the fruit juice. A spoonful or two in a glass filled with cold spring water makes a pleasant drink.

Stuffed Tomatoes.—Cut a thin slice from the stem end of the tomatoes. Scoup out the seeds and soft pulp and mix the latter with an equal amount of buttered bread crumbs. Season to taste with salt, pepper and a bit of onion juice. A little finely chopped cooked meat may be added. Then fill the tomatoes, heaping it in the centre. Put the tomatoes in a granite pan, bake until the crumbs are nicely browned, take up carefully and serve very hot.

Canning Rhubarb.—Rhubarb may be kept all the year by placing in the cans after cutting as for immediate use, and merely filling them to overflowing with cold water. This may be done by letting the water run in the cans from a faucet, or better yet, by immersing them in a dish of water and fastening on the lid under water, tightening still more after removing from the dish. It may be new to some, also, to know that it is not necessary to strip the skins from the stalks of rhubarb for cooking or for canning. Cut off the leaves, wash the stalks, and placing half a dozen stalks or more side by side on the bread board, or any clean place, with a sharp knife cut all at once into pieces the desired size. This simplifies the otherwise tedious process and the fruit has a richer flavor when cooked.

Fried Chicken.—Dress and joint a young chicken. Have a plate of flour seasoned with salt, roll the chicken in it piece by piece. Have a skillet very hot with a generous spoonful of lard and half as much butter and put in the chicken. Pour over it two cupfuls of boiling water, cover with a lid and let it cool rapidly. When the water is nearly evaporated if the chicken is not done add a little more water. Remove the lid and let it brown well, turning it carefully to have it equally brown on all sides.

Currants.—Currant jelly, as a rule, is cooked too long. The fruit must not be very ripe to produce the best results. It must lack ripeness, if anything. The currants should be carefully picked from the stem, washed and put into a porcelain kettle with sufficient water to cover; let cook until thoroughly scalded. Drain them without squeezing through a cheese-cloth bag. The currants may then be used for jam, if fruit is scarce. The juice, to be exceptionally nice, must be strained once more. Return to the fire, add an equal quantity of warm sugar, and, after a few minutes' brisk boiling, try a little on a dish. If it thickens at all, it is done.

Spiced Tomatoes.—To two and one-half quarts ripe tomatoes add a pint bowl of vinegar and three and one-half pints of sugar, with a half ounce of cinnamon tied in a cloth. Cook until the tomatoes are well done, then pour off the liquor and boil until it is thick, add the tomatoes and when boiling again seal in cans.

Green Tomato Pickles.—No. 1.—Slice half a peck of green tomatoes, cover with one quart of water in which has been dissolved one cup of salt, let stand two hours. Drain thoroughly through a colander. Heat boiling hot one quart of best cider vinegar, two teaspoons each of mustard seed and celery seed and two green peppers. Pour over tomatoes three mornings in succession. No. 2—Salt and drain as in preceding recipe. Add one quart best cider vinegar, one tablespoonful each of ground cloves, cinnamon, pepper, allspice and mustard, and one pound of best brown sugar. Boil all together ten minutes, then simmer about an hour. Will keep indefinitely. No. 3.—Cut one peck green tomatoes in quarter inch slices, sprinkle over them one cup salt, let stand 24 hours. Drain very dry. Slice twelve small onions very thin. Mix one bottle prepared mustard, two tablespoonsfuls of ground cloves, one of pepper, one of allspice. Then pack alternate layers of tomato, spice and onion into the jar in which you wish to keep them. Cover with cold vinegar, let stand until the tomato looks clear, then they are ready to use.

Pickled Cucumbers.—Cucumbers for pickles are best when small—not larger than one's thumb—and the size of the little finger is better. Larger ones may be

used. Cut with a knife or scissors, leaving a bit of the stem on. Pack in a jar or clean keg in layers with coarse salt cover with a clean cloth and a board or plate that will cover and hold the cucumbers down, and add more as they can be cut. Wash or change the cloth that covers them daily so long as any scum rises and be sure to keep the cucumbers under the brine. When wanted for use take out of the brine, pour boiling water over them and let stand until cold, three times then put in a jar and pour boiling vinegar over them, using a little sugar and spice or not, as you like.

Cucumber Pickles.—Two hundred cucumbers and one pint salt, or two quarts cucumbers and one-half cup salt. Place cucumbers and salt in jar, pour enough scalding water over to cover them and let stand 24 hours. Drain. Take as much vinegar as you had of water, a few green peppers, and if liked spiced add one ounce whole cloves and allspice to two hundred cucumbers. Heat boiling hot and pour over cucumbers. If wanted more crisp add a piece of alum the size of a walnut.

Baked Tomato.—Peel them first, lay stem end down in a dripping pan, cut a Greek cross on the top of each, season with salt, pepper and sugar, dot with bits of butter and sprinkle thickly with fine stale bread crumbs, adding a generous bit of butter on top of each. Pour in at the side of the pan two tablespoonsfuls of water.

Tomato Catsup.—Use ripe tomatoes, boil and strain. To every gallon of tomatoes use three tablespoonsfuls of salt, two of mustard and one and a half of black pepper, one-quarter of cayenne, cup of brown sugar, and one pint of cider vinegar. Boil four hours and watch carefully or it will burn. Set on the back of the stove, and add one tablespoonful of cinnamon, one-half tablespoonful of cloves, and, if liked, one pint of currant jelly. Mix thoroughly; can while hot, and seal.

The Sabbath Day.

Those who devote the day wholly to pleasure, as so many are doing at present, or even wholly to rest, make a grave mistake. God has set apart the Sabbath in a large degree in a special sense for worship, for study and meditation on holy things, for united as well as private prayer and praise, for Christian intercourse and holy deeds. It hurts a soul never to worship thus. But God means the day to be also one of real and refreshing rest. How this may be sought and enjoyed is one of the vexed questions. The only safe answer to it is to try to keep the heart warm with love for Jesus Christ and to regulate conduct on the Sabbath as you think He would in your place. And as for others, let them decide for themselves, and do not blame them if their conclusions do not coincide with your own. A Christ-like and Christ-rewarded Sabbath-keeping never involves or allows dictation.

My Good Angel.

Her eyes are sweet and gentle ;
Hair, a golden brown ;
Her cheeks are soft and tender
As any girl's in town.

Her temper is the mildest,
Spirits, blithe and gay ;
She never cares to wander
Far from my side away.

She follows close behind me,
O'er mountain, plain or bog ;
She loves me fondly, truly—
"A woman?"

No—my dog.

—Truth.

OUR TWO PUBLICATIONS BALANCE OF THE YEAR



FOR TWENTY-FIVE CENTS

We will mail *THE LADIES' HOME JOURNAL*, beginning with the next issue (October number), to January 1, 1899, also *THE SATURDAY EVENING POST*, every week, from the time subscription is received to January 1, 1899, for Twenty-five Cents, for the purpose of introducing our weekly with our well-known monthly.

The regular subscription price to *THE SATURDAY EVENING POST* is \$2.50 per year. It was founded in 1728, and published by Benjamin Franklin up to 1765, and has been regularly published for 170 years—the oldest paper in the United States. Everybody knows *THE LADIES' HOME JOURNAL*, with its 800,000 subscription list. The Post will be just as high a grade of literature and illustration, but entirely distinctive in treatment and in kind.

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Cranford.

(Continued from Last Issue.)

I found Miss Matty covering her penny ball—the ball that she used to roll under her bed—with gay-colored worsted in rainbow stripes.

"My dear," said she, "my heart is sad for that little careworn child. Although her father is a conjurer, she looks as if she had never had a good game of play in her life. I used to make very pretty balls in this way when I was a girl, and I thought I would try if I could not make this one smart and take it to Phoebe this afternoon. I think 'the gang' must have left the neighborhood, for one does not hear any more of their violence and robbery now."

We are all of us far too full of the Signor's precarious state to talk either about robbers or ghosts. Indeed, Lady Glenmire said she never had heard of any actual robberies, except that two little boys had stolen some apples from Farmer Benson's orchard, and that some eggs had been missed on a market-day off widow Hayward's stall. But that was expecting too much of us; we could not acknowledge that we had only had this small foundation for all our panic. Miss Pole drew herself up at this remark of Lady Glenmire's, and said "that she wished she could agree with her as to the very small reason we had for alarm, but with the recollection of a man disguised as a woman who had endeavored to force himself into her house while his confederates waited outside; with the knowledge gained from Lady Glenmire herself, of the footprints seen on Mrs. Jamieson's flower borders; with the fact before her of the audacious robbery committed on Mr. Hoggins at his own door—". But here Lady Glenmire broke in with a very strong expression of doubt as to whether this last story was not an entire fabrication founded upon the theft of a cat; she grew so red while she was saying all this that I was not surprised at Miss Pole's manner of bridling up, and I am certain, if Lady Glenmire had not been "her ladyship," we should have had a more emphatic contradiction than the "Well, to be sure!" and similar fragmentary ejaculations, which were all that she ventured upon in my lady's presence. But when she was gone Miss Pole began a long congratulation to Miss Matty that so far they had escaped marriage, which she noticed always made people credulous to the last degree; indeed, she thought it argued great natural credulity in a woman if she could not keep herself from being married; and in what Lady Glenmire had said about Mr. Hoggins's robbery we had a specimen of what people came to if they gave way to such a weakness; evidently Lady Glenmire would swallow anything if she could believe the poor vamped-up story about a neck of mutton and a pussy with which he had tried to impose on Miss Pole, only she had always been on her guard against believing too much of what men said.

We were thankful, as Miss Pole desired us to be, that we had never been married; but I think, of the two, we were even more thankful that the robbers had left Cranford; at least I judge so from a speech of Miss Matty's that evening, as we sat over the fire, in which she evidently looked upon a husband as a great protector against thieves, burglars, and ghosts; and said that she did not think that she should dare to be always warning young people against matrimony, as Miss Pole did continually; to be sure marriage was a risk, as she saw, now she had had some experience; but she remembered the time when she had looked

forward to being married as much as any one.

"Not to any particular person, my dear," said she, hastily checking herself up as if she were afraid of having admitted too much; "only the old story, you know, of ladies always saying 'when I marry,' and gentlemen 'If I marry.'" It was a joke spoken in rather a sad tone, and I doubt if either of us smiled; but I could not see Miss Matty's face by the flickering firelight. In a little while she continued—

"But, after all, I have not told you the truth. It is so long ago, and no one ever knew how much I thought of it at the time, unless, indeed, my dear mother guessed; but I may say that there was a time when I did not think I should have been only Miss Matty Jenkyns all my life; for even if I did meet with any one who wished to marry me now (and, as Miss Pole says, one is never too safe), I could not take him—I hope he would not take it too much to heart, but I could not take him—or any one but the person I once thought I should be married to; and he is dead and gone, and he never knew how it all came about that I said 'No,' when I had thought many and many a time—. Well, it's no matter what I thought. God ordains it all, and I am very happy, my dear. No one has such kind friends as I," continued she, taking my hand and holding it in hers.

If I had never known of Mr. Holbrooke, I could have said something in this pause, but as I had, I could not think of anything that would come in naturally, and so we both kept silence for a little time.

"My father once made us," she began, "keep a diary, in two columns; on one side we were to put down in the morning what we thought would be the course and events of the coming day, and at night we were to put down on the other side what really had happened. It would be to some people rather a sad way of telling their lives" (a tear dropped upon my hand at these words)—"I don't mean that mine has been sad, only so very different to what I expected. I remember, one winter's evening, sitting over our bedroom fire with Deborah—I remember it as if it were yesterday—and we were planning our future lives, both of us were planning, though only she talked about it. She said she would like to marry an archdeacon, and write his charges; and you know, my dear, she never was married, and, for aught I know, she never spoke to an unmarried archdeacon in her life. I never was ambitious, nor could I have written charges, but I thought I could manage a house (my mother used to call me her right hand), and I was always so fond of little children—the shyest babies would stretch out their little arms to come to me; when I was a girl, I was half my leisure time nursing in the neighboring cottages; but I don't know how it was, when I grew sad and grave—which I did a year or two after this time—the little things drew back from me, and I am afraid I have lost the knack, though I am just as fond of children as ever, and have a strange yearning at my heart whenever I see a mother with her baby in her arms. Nay, my dear" (and by a sudden blaze which sprang up from a fall of the un-stirred coals, I saw that her eyes were full of tears—gazing intently on some vision of what might have been), "do you know, I dream sometimes that I have a little child—always the same—a little girl of about two years old; she never grows older, though I have dreamt about her for many years. I don't think I ever dream of any words or sound she makes; she is very noiseless and still, but she comes to me when she is very sorry or very glad, and I have wakened with the clasp of her dear little arms round my

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7 55	12 01a	Morris	2 32	12 01
5 15	11 09	Emerson	3 23	2 45
4 15	10 55	Pembina	3 37	4 15
10 20p	7 30	Grand Forks	7 05	7 05
1 15	4 05	Winnipeg Junc	10 45	10 30p
	7 30	Duluth	8 00p	
	8 30	Minneapolis	6 40	
	8 00	St. Paul	7 15	
	10 30	Chicago	9 35	

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Fri. Sat.

10 30 am	D . . .	Winnipeg	A	4 00 pm
12 15 pm	D . . .	Morris	A	2 20
1 18	. . .	Roland		1 23
1 38	. . .	Rosebank		1 07
1 50	. . .	Miami		12 58
2 25	. . .	Altamont		12 21
2 43	. . .	Somerset		12 03
3 40	. . .	Greenway		11 10 am
3 55	. . .	Baldur		10 00
4 19	. . .	Belmont		10 35
4 37	. . .	Hilton		10 17
5 00	. . .	Wawanesa		9 55
5 23	. . .	Routhwaite		9 54
6 00 pm	A . . .	Brandon	D	9 00 am

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week. Only last night—perhaps because I had gone to sleep thinking of this ball for Phoebe—my little darling came in my room, and put up her mouth to be kissed, just as I have seen real babies do to real mothers before going to bed. But all this is nonsense, dear! only don't be frightened by Miss Pole from being married. I can fancy it may be a very happy state, and a little credulity helps one on through life very smoothly—better than always doubting and seeing difficulties and disagreeables in everything."

If I had been inclined to be daunted from matrimony, it would not have been Miss Pole to do it; it would have been the lot of poor Signor Brunoni and his wife. And yet again, it was an encouragement to see how, through all their cares and sorrows, they thought of each other and not of themselves, and how keen were their joys, if they only passed through each other, or through the little Phoebe.

The signora told me, one day, a good deal about their lives up to this period. It began by my asking her whether Miss Pole's story of the twin brothers was true; it sounded so wonderful a likeness, that I should have had my doubts, if Miss Pole had not been unmarried. But the signora, or (as we found out she preferred to be called) Mrs. Brown, said it was quite true; that her brother-in-law was by many taken for her husband, which was of great assistance to them in their profession; "though," she continued, "how people can mistake Thomas for the real Signor Brunoni, I can't conceive; but he says they do; so I suppose I must believe him. Not but what he is a very good man; I am sure I don't know how we should have paid our bill at the 'Rising Sun' but for the money he sends; but people must know very little about art if they can take him for my husband. Why, miss, in the ball trick, where my husband spreads his fingers wide, and throws out his little finger with quite an air of grace, Thomas just clumps up his hand like a fist, and might have ever so many balls hidden in it. Besides, he has never been in India, and knows nothing of the proper sit of a turban."

"Have you been in India?" said I, rather astonished.

"Oh, yes! many a year, ma'am. Sam was a sergeant in the 31st; and when the regiment was ordered to India, I drew a lot to go, and I was more thankful than I can tell; for it seemed as if it would only be a slow death to me to part from my husband. But, indeed, ma'am, if I had known all, I don't know whether I would not rather have died there and then than gone through what I have done since. To be sure, I've been able to comfort Sam, and to be with him; but, ma'am, I've lost six children," said she looking up at me with those strange eyes that I've never noticed but in mothers of dead children—with a kind of wild look in them, as if seeking for what they never more might find. "Yes! Six children died off, like little buds nipped untimely, in that cruel India, I thought, as each died, I never could—I never would—love a child again; and when the next came, it had not only its own love, but the deeper love that came from the thoughts of its little dead brothers and sisters. And when Phoebe was coming, I said to my husband, 'Sam, when the child is born, and I am strong, I shall leave you; it will cut my heart cruel; but if this baby dies too, I shall go mad; the madness is in me now; but if you let me go down to Calcutta, carrying my baby step by step, it will, maybe, work itself off; and I will save, and I will hoard, and I will beg—and I will die, to get a passage home to England, where our baby may live?' God bless him! he said I might go; and he saved up his pay, and I saved every pice I could get

for washing or any way; and when Pheobe came, and I grew strong again, I set off. It was very lonely; through the thick forests, from station to station, from Indian village to village, I went carrying my child. I had seen one of the officers' ladies with a little picture, ma'am, of the Virgin and the little Saviour, ma'am. She had him on her arm, and her form was softly curled round him, and their cheeks touched. Well, when I went to bid goodbye to this lady, for whom I had washed, she cried sadly; for she, too, had lost her children, but she had not another to save, like me; and I was bold enough to ask her, would she give me that print. And she cried more, and said her children were with that little blessed Jesus. And when my body was very weary, and my heart was sick, I took out that picture and looked at it, till I could have thought the mother spoke to me, and comforted me. And the natives were very kind. We could not understand one another; but they saw my baby on my breast, and they came out to me, and brought me rice and milk, and sometimes flowers—I have got some of the flowers dried. And once when my baby was ill, and both she and I needed rest. He led me to a place where I found a kind Englishman lived, right in the midst of the natives."

"And you reached Calcutta safely at last?"

"Yes, safely. And I got as servant to an invalid lady who grew quite fond of my baby aboard ship; and, in two years' time, Sam earned his discharge and came home to me, and to our child. Then he had to fix on a trade; but he knew of none; and once, once upon a time, he had learnt some tricks from an Indian juggler; so he set up conjuring, and it answered so well that he took Thomas to help him—as his man, you know, not as another conjurer, though Thomas has set it up now on his own hook. But it has been a great help to us that likeness between the twins, and made a good many tricks go off well that they made up together. And Thomas is a good brother, only he has not the fine carriage of my husband, so that I can't think how he can be taken for Signor Brunoni himself, as he says he is."

"Poor little Phoebe!" said I, my thoughts going back to the baby she carried all those hundred miles.

"Ah! you may say so! I never thought I should have reared her, though, when she fell ill at Chunderabaddad; but that good, kind Aga Jenkyns took us in, which I believe was the very saving of her."

"Jenkyns?" said I.

"Yes, Jenkyns. I shall think all people of that name are kind; for here is that nice old lady who comes every day to take Phoebe a walk!"

But an idea had flashed through my head, could the Aga Jenkyns be the lost Peter? True, he was reported by many to be dead. But, equally true, some had said that he had arrived at the dignity of Great Lama of Thibet. Miss Matty thought he was alive. I would make further inquiry.

CHAPTER XII.

Was the "poor Peter" of Cranford the Aga Jenkyns of Chunderabaddad, or was he not? As somebody says, that was the question.

In my search after facts I was often reminded of a description my father had once given of a Ladies' Committee that he had had to preside over. He said he could not help thinking of a passage in Dickens, which spoke of a chorus in which every man took the tune he knew best, and sang it to his own satisfaction. So, at this charitable committee, every lady took the subject uppermost in her mind, and talked about it to her own great contentment, but not much to the advance-

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ment of the subject they had met to discuss. But even that committee could have been nothing to the Cranford ladies when I attempted to gain some clear and definite information as to poor Peter's height, appearance, and when and where he was seen and heard of last. For instance, I remember asking Miss Pole (and I thought the question was very opportune, for I put it when I met her at a call at Mrs. Forrester's, and both the ladies had known Peter, and I imagined that they might refresh each other's memories) —I asked Miss Pole what was the very last thing they had ever heard about him; and then she named the absurd report to which I have alluded, about his having been elected Great Lama of Thibet; and this was a signal for each lady to go off on her separate idea.

The only fact I gained from this conversation was that certainly Peter had last been heard of in India "or that neighborhood;" and that this scanty intelligence of his whereabouts had reached Cranford in the year when Miss Pole had bought her Indian muslin gown, long since worn out (we washed it and mended it and traced its decline and fall into a window-blind, before we could go on).

I suppose all these inquiries of mine, and the consequent curiosity excited in the minds of my friends, made us blind and deaf to what was going on around us.

We were sitting—Miss Matty and I—much as usual, she in the blue chintz easy-chair, with her back to the light, and her knitting in her hand, I reading aloud the St. James's Chronicle. A few minutes more and we should have gone to make the little alterations in dress usual before calling time (12 o'clock) in Cranford, when a knock was heard—a caller's knock—three distinct taps—and we were flying to our rooms, to change cap and collars, when Miss Pole arrested us by calling out, as she came up the stairs, "Don't go—I can't wait—it is not twelve. I know—but never mind your dress—I must speak to you." We did our best to look as if it was not we who had made the hurried movement, the sound of which she had heard; for, of course, we did not like to have it supposed that we had any old clothes that it was convenient to wear out in the "sanctuary of home," as Miss Jenkyns once prettily called the back parlor, where she was tying up preserves. So we threw our gentility with double force into our manners, and very genteel we were for two minutes while Miss Pole recovered breath and excited our curiosity strongly by lifting up her hands in amazement, and bringing them down in silence, as if what she had to say was too big for words, and could only be expressed by pantomime.

"What do you think, Miss Matty? What do you think? Lady Glenmire is to marry—is to be married, I mean—Lady Glenmire—Mr. Hoggins—Mr. Hoggins is going to marry Lady Glenmire!"

"Marry?" said we. "Marry! Madness!"

"Marry!" said Miss Pole, with the decision that belonged to her character. "I said marry! as you do; and I also said, 'What a fool my lady is going to make of herself!' I could have said 'Madness!' but I controlled myself, for it was in a public shop that I heard of it. Where feminine delicacy is gone to, I don't know! You and I, Miss Matty, would have been ashamed to have known that our marriage was spoken of in a grocer's shop, in the hearing of shopmen!"

"But," said Miss Matty, sighing as one recovering from a blow, "perhaps it is not true. Perhaps we are doing her injustice."

"No," said Miss Pole. "I have taken care to ascertain that. I went straight to Mrs. Fitz-Adam, to borrow a cookery book which I knew she had; and I intro-

duced my congratulations apropos of the difficulty gentlemen must have in house-keeping; and Mrs. Fitz-Adam bridled up, and said that she believed it was true, though how and where I could have heard it she did not know. She said her brother and Lady Glenmire had come to an understanding at last. 'Understanding!' such a coarse word! But my lady will have to come down to many a want of refinement. I have reason to believe Mr. Hoggins sups on bread-and-cheese and beer every night."

"Marry!" said Miss Matty once again. "Well! I never thought of it. Two people that we know going to be married. It's coming very near!"

"So near that my heart stopped beating, when I heard of it, while you might have counted twelve," said Miss Pole.

"One does not know whose turn may come next. Here, in Cranford, poor Lady Glenmire might have thought herself safe," said Miss Matty, with a gentleness in her tones.

"Bah!" said Miss Pole, with a toss of her head. "Don't you remember poor dear Captain Brown's song 'Tibbie Fowler,' and the line—

"Set her on the Tintock Tap.

The wind will blow a man till her."

"That was because 'Tibbie Fowler' was rich, I think."

"Well! there is a kind of attraction about Lady Glenmire that I, for one, should be ashamed to have."

I put in my wonder. "But how can she have fancied Mr. Hoggins? I am not surprised that Mr. Hoggins has liked her."

"Oh! I don't know. Mr. Hoggins is rich, and very pleasant-looking," said Miss Matty. "and very good-tempered and kind-hearted."

"She has married for an establishment, that's it. I suppose she takes the surgery with it," said Miss Pole, with a little dry laugh at her own joke. But, like many people who think they have made a severe and sarcastic speech, which yet is clever of its kind, she began to relax in her grimness from the moment when she made this allusion to the surgery; and we turned to speculate on the way in which Mrs. Jamieson would receive the news. The person whom she had left in charge of her house to keep off followers from her maids to set up a follower of her own! And that follower a man whom Mrs. Jamieson had tabooed as vulgar, and inadmissible to Cranford society, not merely on account of his name, but because of his voice, his complexion, his boots, smelling of the stable, and himself, smelling of drugs. Had he ever been to see Lady Glenmire at Mrs. Jamieson's? Chloride of lime would not purify the house in its owner's estimation if he had. Or had their interviews been confined to the occasional meetings in the chamber of the poor sick conjurer, to whom, with all our sense of the mesalliance, we could not help allowing that they had both been exceedingly kind? And now it turned out that a servant of Mrs. Jamieson's had been ill, and Mr. Hoggins had been attending her for some weeks. So the wolf had got into the fold, and now he was carrying off the shepherdess. What would Mrs. Jamieson say? We looked into the darkness of futurity as a child gazes after a rocket up in the cloudy sky, full of wondering expectation of the rattle, the discharge, and the brilliant shower of sparks and light. Then we brought ourselves down to earth and the present time by questioning each other (being all equally ignorant, and all equally without the slightest data to build any conclusions upon) as to when it would take place? Where? How much a year Mr. Hoggins had? Whether she would drop her title? And how Martha and the other correct

servants in Cranford would ever bring to announce a married couple like the Lady Glenmire and Mr. Hoggins? Would they be visited? Would Mrs. Jamieson let us? Or must we choose between the Honorable Mrs. Jamieson and the degraded Lady Glenmire? We all liked Lady Glenmire the best. She was bright, and kind, and sociable, and agreeable; and Mrs. Jamieson was dull, and inert, and pompous, and tiresome. But we had acknowledged the sway of the latter so long, that it seemed like a kind of disloyalty now even to meditate disobedience to the prohibition we anticipated.

Mrs. Forrester surprised us in darned caps and patched collars; and we forgot all about them in our eagerness to see how she would bear the information which we honorably left to Miss Pole to impart. Mrs. Forrester's surprise was equal to ours; and her sense of injury rather greater, because she had to feel her Order, and saw more fully than we could do how such conduct brought stain on the aristocracy.

When she and Miss Pole left us we endeavored to subside into calmness; but Miss Matty was really upset by the intelligence she had heard. She reckoned it up, and it was more than fifteen years since she had heard of any of her acquaintance going to be married, with the one exception of Miss Jessie Brown; and, as she said, it gave her quite a shock, and made her feel as if she could not think what would happen next.

I don't know whether it is a fancy of mine, or a real fact, but I have noticed that, just after the announcement of an engagement in any set, the unmarried ladies in that set flutter out in an unusual gayety and newness of dress, as much as to say, in a tacit and unconscious manner, "We also are spinsters." Miss Matty and Miss Pole talked and thought more about bonnets, gowns, caps, and shawls during the fortnight that succeeded this call, than I had known them do for years before.

None of the ladies in Cranford chose to sanction the marriage by congratulating either of the parties. We wished to ignore the whole affair until our liege lady Mrs. Jamieson, returned. Till she came back to give us our cue, we felt that it would be better to consider the engagement in the same light as the Queen of Spain's legs—facts which certainly existed!, but the less said about the better. This restraint upon our tongues—for you see if we did not speak about it to any of the parties concerned, how could we get answers to the question that we longed to ask? was beginning to be irksome, and our idea of the dignity of silence was paltry before our curiosity, when another direction was given to our thoughts, by an announcement on the part of the principal shopkeeper of Cranford, who ranged the trades from grocer and cheesemonger to man-milliner, as occasion required, that the Spring Fashions were arrived, and would be exhibited on the following Tuesday at his rooms in High street. Now Miss Matty had been only waiting for this before buying herself a new silk gown. I had offered, it is true, to send to Drumble for patterns, but she had rejected my proposal, gently implying that she had not forgotten her disappointment about the sea-green turban. I was thankful that I was on the spot now, to counteract the dazzling fascination of any yellow or scarlet silk.

I must say a word or two here about myself. I have spoken of my father's old friendship for the Jenkyns family; indeed, I am not sure if there was not some distant relationship. He had willingly allowed me to remain all the winter in Cranford, in consideration of a letter which Miss Matty had written to him about the

one of the panic, in which I suspected she had exaggerated my powers and my bravery as a defender of the house. But now that the days were longer and more cheerful, he was beginning to urge the necessity of my return; and I only delayed in a sort of odd forlorn hope that if I could obtain any clear information, I might make the account given by the signora of the Aga Jenkyns tally with that of "poor Peter," his appearance and disappearance, which I had winnowed out of the conversation of Miss Pole and Miss Forrester.

(To be Continued.)

The Girl's Allowance.

"Every self-respecting woman, be she maid or wife, has a natural and intense dislike to ask her father or husband for every penny she needs," says Edward Bol, writing in the Ladies' Home Journal. "Nor is the feeling lessened by the fact that the money can be had for the asking and is always given ungrudgingly. It is the asking which women dislike. They justly recoil from it, and men ought to understand it better than they do. It should be said that the husband who refuses to give his wife a regular allowance is rapidly becoming the exception. But there are still too many fathers who withhold an allowance from their daughters. If it be true that the average girl has no idea of the value of money, how will she ever gain a better knowledge of its worth unless she is given the opportunity? Our girls must be educated in money matters, and there is no surer method than by giving them money of their own to spend: a regular weekly or monthly allowance given them to cover certain regulated expenses. It is only natural that at the start a girl will spend foolishly. To meet this inevitable experience the amount of the allowance should be accordingly regulated. After a while, however, when she gets accustomed to the handling of money, she will learn its value better and be more judicious in spending it. To give a girl an allowance is not a privilege, but her right. To withhold it is to do her a serious wrong, and likewise is an injustice to the man whom she will marry and whose money she will be entrusted with to spend wisely. She should have experience before she reaches that point, and that experience can only come to her from her father in an allowance of her own while she is his daughter in his home."

How to Remove Stains.

Coffee.—Lay the stained portion of the cloth over a bowl and pour boiling water through it.

Fruit.—Boiling water as above; if ineffectual, rub with a solution of oxalic acid and rinse in warm water.

Grease.—Moisten with strong ammonia water, lay blotting paper over, and iron dry; if silk, use chloroform to restore color, or cover with powdered French chalk and iron.

Ink.—Dip in boiling water, rub with salts of sorrel, and rinse well. Also by soaking stained part in water with a little borax in it, then rinse two or three times. Borax will not injure the most delicate fabric.

Copying and Marking Inks.—Use strong solution of bleaching powder; rinse with a little clear water; rub with oxalic acid solution and rinse again.

Schorch.—Dip in soapsuds and lay in sun; if fibres are not much injured, dip repeatedly in saturated solution of borax and rinse.

Egg.—Soak well in cold water and rinse until stain disappears.

Grass.—If fresh, use alcohol and rinse; or use Javelle water and rinse thoroughly.

Paint.—Turpentine for coarse goods, benzine or naphtha for fine.

Mildew.—Wet the soapsuds; lay in sun; spread with a paste of soft soap and powdered chalk and sun it; soak in buttermilk and sun.

Blood.—Soak in cold water. For ticking and thick goods make a thick paste of starch and water; leave till dry, and brush off.

Fruit Stains on the Fingers.—Put a tiny lump of sulphur on a tin plate; pour on a little alcohol and set fire to it. Hold the finger-tips above the flame and the sulphur fumes will cause the discoloration to disappear.

Tea and Coffee Pot Stains.—If tea and coffee pots have become discolored, fill them half full of water, add a little borax and boil fifteen or twenty minutes; rinse and wipe dry and you will find them as bright as new. Any kind of tin or granite vessels may be cleaned in the same way. A housewife of our acquaintance claims that baking soda is even better than borax.

FOR THE YOUNG FOLKS.

We publish this month three essays from young people at Posen, Man. We will be pleased to give young people space in these columns for any essays they may write, always providing, of course, that they will be of interest to other young people. We would be glad to have you give an account of your pets, of your favorite occupations, of your garden or flower plots, of your games and sports, and of anything that interests you and that would interest other young people. In the essays published this month there may be some points about which the opinions of the young folks may differ; we would be glad to have them say so, and why. If you have some scheme on hand by which you hope to make a little money let the rest of the young people know how you succeed.

We would ask those who do write to write on one side of the paper only. A 1-cent postage stamp will carry your matter to our office if the envelope is not sealed and "Printer's Copy" written across one corner of the envelope. Now, who will be the first to respond for next issue?

Butter Making.

FROM THE COW TO THE MARKET.

When you go to milk a cow her udder and teats should be clean and dry, so that no dirt will drop into the milk. When milking a cow, you should milk as quickly and quietly as possible. After the milk is taken from the cow it should be strained and put into shallow pans or deep-setters. If the deep-setters are put in snow or ice the cream should all be up in twelve hours. Shallow pans should be in a cool place and left for twenty-four or thirty-six hours before skimming. There is more trouble with shallow pans than deep-setters, especially if you have a lot of milk. After the milk is drained off, the cream should be put in another can and left until it is fit for churning. When the cream is sour enough to be churned, it should be heated to a temperature of about 62. Scald the churn with boiling water, and cool it with fresh water. Then put the cream in the churn, and churn it steadily until the butter comes in gran-

ulated form. Let it stand for a few minutes before you drain off the buttermilk. Then the buttermilk should be drained off and the butter washed. Take the butter out of the churn and weigh it. Put one ounce of salt to one pound of butter. Mix the salt in and let it stand for about five hours. Scald your butter-worker with boiling water and cool it with fresh water. Put the butter on the worker and work it; then print it, and puts the prints in the dairy to freeze. Then they will be ready to be packed for market. If in summer time the butter should be packed in tubs or crocks, the tubs should be lined with parchment paper. When the butter is packed, some salt or brine should be put over the top, and then the tub should be tied down with parchment paper to keep out the air. Put it in a cool place ready for market.

FLORENCE BURGE,
Seamo.

An Essay on Butter Making.

One of the chief things in dairying is cleanliness, and to make good butter this must be attentively watched in every part from the beginning to the finish. First of all is the milking. Whether in the stable out outside, see that the teats and udders are clean, and in milking you should not wet the teats, as it is a dirty habit. In winter the cows are liable to get dirty, and the best way in cleaning them is to get a bucket half-full of water, and two cloths, one to wash the udder with and the other to dry it with. Before sitting down see that the pail is clean. If it is, start milking, and do this quickly, and see that you get every drop from the cow. After milking do not let the milk stand. The best way, I think to strain milk is to tie a piece of cheese cloth over the wire strainer, for it keeps all dust back that otherwise would float on the cream. After the straining is over wash the pails at once, as the milk will clean off so much easier then. Do not use the dish-cloth, but have a proper cloth, and always bear in mind to wash it out and hang up in the open air to sweeten it. The pails should be swilled out with clean water and turned on their sides to drain and ventilate.

There are different ways of collecting the cream; shallow pans and deep-setters. We use the deep-setters, as we find them the best. In the summer we keep them in a tank, changing the water three times in the hottest days. The milk should stand twenty-four hours before running off the milk; then run the cream into the cream can and keep it in a cool, dry place to ripen, which it usually does in twenty-four hours during the summer months. When this is ready, the next thing to be done is to prepare the churn. This is done by a thorough scalding, after which it is rinsed with cold water. You now get your cream ready, testing it with the thermometer, to see if it is the right temperature, which should be about 60 degrees in summer and in winter a little higher. Then put it into the churn and turn. In half an hour it should come in small granules. If it is too soft, a little cold water dashed into it will prevent it getting into large lumps, for when it is in large lumps it is not so easy to wash the buttermilk out of it. In washing the butter it takes two or three lots of water, and the last lot should be as clear when it is run off as when it was put in. The next thing is to prepare the butter bowl. It is to be scalded in the same manner as said before about the churn, and then some cold water to cool it, so as to keep the butter from sticking to it. Of course the butter is taken from the churn and a

little put into the bowl. A little salt is added. Then some more butter; then salt, till all the butter is salted in layers (the quantity of salt is usually one ounce to a pound of butter.) Then press it down lightly with the butter spoon and let stand for a few hours, so that the salt will work into it. After the butter is out of the churn wash up the utensils at once. Never leave the churn dirty till the next time of churning, but wash it out at once, for if it is not it will make the butter cheesy the next time you churn. After this has stood long enough it has to be worked, but be sure not to work it too much, as it spoils the grain and makes it look greasy.

Next comes the packing of it for market. There are different ways of doing this. Some use tubs, others jars; some boxes, and in winter it is mostly put up in prints. When not convenient to send it to market, it is best kept in a dry, cool place. In tying down the cover have a clean piece of butter cloth to put on top of the butter; on this put some salt, and over this tie down with parchment paper, and it will keep much better than if tied with the butter cloth and ordinary common paper.

HARRIET GERTRUDE BETT.
Posen.

An Essay on Cooking.

To make a good cook, you must have good tools and ingredients to work with. If you are without both of these you must give up all hope of being successful, even in the plainest kind of cooking. A great deal also lies in the manner in which one goes about preparing a meal. I will write a few lines on each department of cooking.

SOUP.

One of the first things taken to the table is soup, so I will give a few hints on making it. Nothing furnishes a better basis for soup than a shank of beef. Always put the meat to cook in cold water, for the reason that the juice is required in the soup; if put in boiling water the pores will be closed at once and the juice retained. Never allow it to boil fast, but let it stand on the back of the stove and simmer slowly. Remove the scum that will rise as the soup is near boiling, add cold water, a little at a time, to keep the soup from boiling, until it has been thoroughly skimmed, as without this the soup will not be clear. Let it stand a while, so as to let the fat rise; then take the fat off and put on to boil again. Flavor with pepper and salt and any other flavoring you like. It is ready then for the table.

ROAST MEATS.

Sirloin and tenderloin are the best joints for roasting. A rib roast is also very nice when the bones are taken out and the meat rolled up and roasted. The liquid from the bones will make nice gravy. Have the oven hot when the meat is put in; baste the meat often while it is cooking until nearly done, then let it brown. Mutton needs cooking very thoroughly, therefore, the oven will not need to be very hot, so that it will cook slowly. Baste often until near done; then let brown. Pork is another meat that requires the same instructions given for mutton.

BREAD.

Good bread can only be made from the best of materials. It wants good attention also. Bread-makers should keep everything that comes in contact with bread sweet and clean. Fresh ground flour will not make such good bread as it will when

it has been kept a while to get dry. Bread should be kept in a cool dry place in a tin box. Good flour will not make good bread if your yeast is not good. The second grade of flour you might make good bread with if you have excellent yeast. Knead the dough down several times while rising, and it will be light. Make it into loaves and let it rise before putting it into the oven.

PASTRY.

Always use the best materials for pastry, if possible. Butter is preferable, but if lard is used let it be home-rendered. Use ice-cold water for wetting, and as little as can be used to make rather a stiff dough, though not too stiff to roll out conveniently. The three necessary conditions for making light pastry are good flour, ice-cold water, and the most delicate handling throughout the process of making. A little experience will soon enable one to take about the right quantity of dough for one crust for the size of the plate used, as repeated rollings will injure the lightness of the paste. Roll the paste out on a flour board quickly and lightly. Flour the rolling-pin with the hand, roll from you, changing the position of the paste, so as to make it as near the shape of the plate as possible. When quite thin, flour the plate well, cover smoothly with the crust, so as no air can get in under it; turn the edge evenly, but not too close, put the fruit in. If a top crust is required, roll it out the same as the other, but make a few ornamental or plain gashes in the centre to allow the steam to escape. Good pastry should be light, crisp and flaky. Pastry should be baked in a quick oven.

CAKES.

Pastry flour is best for cakes, in any case the flour must be dry and well sifted.

When you set about cake-making it is advisable to get everything ready before beginning to put the ingredients together. Weigh the flour, measure, and add the cream of tartar and sift together. Weigh the sugar and sift it through a fine sieve. Weigh the butter and put the exact quantity of cream or milk conveniently near your cake bowl. Line the baking tin with buttered white paper, and see the oven is properly heated. Raisins must be seeded, currants carefully looked over and thoroughly washed in several waters, then dried in a warm oven. Everything being ready, the first thing to do is to cream the butter and sugar together, add the well-beaten egg, then add the flour, fruit and milk; mix it well together, and then put into the baking tins. Bake in the oven at once—in a moderate oven. All cakes that depend on their lightness should be put into the oven as soon as possible after being mixed.

ANNE ELIZABETH BETT.
Posen.

Mr. G.—“Now, I’m going to tell you something, Ethel. Do you know that last night, at your party, your sister promised to marry me? I hope you’ll forgive me for taking her away!” Ethel—“Forgive you, Mr. G. Of course I will. What’s just what the party was for?” Punch.

My wife and I at the window one day
Stood watching the organ man’s money,
ey,

When a cart came along in which a boy
Sat driving a long-eared donkey,
Said I to my wife by way of a joke:
“There’s your relative in that carriage!
She glanced at the donkey and made no
ply:

“Ah, yes—we’re related by marriage.”
Chicago Daily News

NEWS FROM EGG LAKE, ALBERTA.

Egg Lake, Alberta, N.W.T., July 25, 1898.

D. B. MACLEOD, ESQ., Winnipeg, Man.

Gentlemen,—We sold a J. I. Case Threshing Machine, 24-inch cylinder, for \$250.00, this summer, which has been running seventeen years. Said machine having been bought three years ago from Adolphus Rowland, of St. Albert, he, in his turn, having bought it from R. Hardisty, Chief Factor, H. B. Co., Edmonton. We have threshed as high as eighteen hundred bushels a day, and, if necessary, could furnish you with the names of many parties who were well satisfied with the work we have done for them. The separator was as good as ever, and we would not have parted with it now but for the fact that there was such a demand for it we could not satisfy them, and we feel assured that it will pay us to get a larger one.

Yours very truly,

MACDONALD & WILLIAMS,
Egg Lake, Alta., N.W.T.

Messrs. MacDonald & Williams have placed their order for a larger capacity machine, which is now on the road to them.

THE J. I. CASE THRESHING MACHINE CO.

D. B. MACLEOD, General Agent, Winnipeg.